

GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America



Charles A. Green, Editor

Rochester, N. Y.

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Green's Fruit Grower

Home Adornment

My purpose will be to point out some ways in which the appearance of many homes may be bettered without any great outlay in labor or money.

So many people are going up and down the land in automobiles to see what may be worth their attention, that the place must be very secluded, indeed, if it is not a subject of observation. A beautiful home gives pleasure to a beholder and leads him to think that the maker of the home has a refined taste and correct understanding, while a failure to use the means at one's disposal offends the eyes of the passer-by. It requires thought to create a beautiful home, with beautiful surroundings and fitting arrangements of the premises. I am afraid that too many people think that plenty of money will do anything. If one has plenty of money, he can adorn a home, but he must exercise thought and draw on his instinct for beauty, which instinct is, no doubt, in all mankind, for, even among the cave dwellers, an effort was made to scratch pictures on their walls.

Fruits Have Great Dietary Importance

Fruits are usually at their best when served fresh, ripe and in season, and there are but few with whom they do not agree. Those who cannot take them in the raw state often find them acceptable when cooked, says Progressive Farmer.

Fresh fruits have but little food value, but their use in dietaries is of great importance, nevertheless, on account of the mineral constituents which they contain. These constituents are made of potash, combined with various vegetable acids, namely, tartaric, citric, malic, oxalic, etc. which render the blood more alkaline and the urine less acid. The antiscorbutic value, (prevention of scurvy) of fruits is due to these constituents. A case of scurvy is quickly bettered by the use of fresh fruits.

The nutritive value of fruits is chiefly in the form of fruit sugar (levulose), although some fruits contain cane sugar (sucrose) as well as fruit sugar. Examples are apples, apricots, pineapples, etc. The carbohydrate of fruit contains, besides sugar, vegetable gums, which when boiled yield a jelly-like substance. Exception must be made to bananas, which contain their carbohydrate largely in the form of starch. Dried fruits have much greater nutritive value than fresh fruits. Weight for weight, dried figs are more nourishing than bread.

The flavor of fruits, although of no nutritive value, helps to make them useful as foods, as they act as stimulants to the appetite and aids to digestion. In selecting fresh fruits choose that which is sound, firm and not overripe. Fruit which has begun to decompose contains micro-organisms, which are likely to cause many ills. Bruised, imperfect fruit, even if bought at a small price, proves no economy.

The digestibility of fruits depends largely upon the quantity of cellulose they contain, their number of seeds, and their ripeness; also the fineness of their division when reaching the stomach. Peach pulp forced through a sieve or scraped apple pulp is often easily digested when, if eaten in the usual way and imperfectly masticated, it would prove a stomach irritant. When unripe fruits are eaten their excess of acids causes pain, colic, diarrhea and nausea. During the ripening of fruits their sugar increases while their acids decrease. Ripe fruits act as a mild stimulant to digestion.

Some of My Pets

Hi O, hi O, away they go—

Up in the trees the squirrels do glide;
To rabbits jumping over the rails
While there comes by a group of quails
And the crow, yonder, swiftly sails
And now we'll climb the mountain side
With stick in hand, I climb along
And odor from the pines do charm,
All's well till there does come a bear
Oh, my! oh my! oh what a scare,
I climbed the nearest tree that's there
And blow my horn to spread alarm
And while the bear does roll his eyes
I sit and look the landscape over
Yes wait till good luck comes about
Or "bear" may tire without doubt
So I just get my pencil out,
And write for Green's Fruit Grower.

—Albert E. Vassar.

Summer and Winter Pruning

What course to pursue after the initial shaping of the tree, is a matter of dispute among experts. The professors usually say that the growths from the scaffolding branches should be headed back, all but two or three preferably being cut out entirely, and a general heading-in kept up for several years, says Farming Business. This plan involves considerable labor, and is best carried out when buds which have started where new growth is not wanted are rubbed off with the gloved hand in May or June. When this method is followed the young tree may be shaped to the liking of the grower, but a great many practical orchardists have found that they get better results when they let their trees grow without any pruning after the first season until they come into bearing. The untrimmed trees grow larger and come into bearing earlier than when submitted to an annual cutting. Of course this does not mean that no work at all is done on the trees. Broken limbs are taken out, as well as those which cross or threaten to chafe.

It is not possible to lay down any arbitrary rules, for conditions differ in different

All dead limbs must be taken out as a matter of course, as well as those which cross or rub. Sometimes parallel limbs are so close that one rests heavily on the other when loaded with fruit. The poorer of these should be removed. Limbs which are not growing straight into the air are not desirable, and bad crotches in any part of the tree are dangerous. Much of even this simple pruning can be avoided if the trees are watched in the growing season and buds found in the wrong place rubbed off.

Summer pruning is not to be discussed here, but is to be resorted to when trees are slow to bear or for other reasons need special treatment. It is always well to remember, tho, that summer pruning tends to induce fruit forming while winter pruning results in increased wood growth. Thrifty young trees need little inducement to make new wood and for that reason much pruning is a disadvantage. It is quite different, tho, with moth-eaten old orchards which have not yielded a paying crop for twenty years. Trees in such an orchard can stand drastic treatment and the weaker they are, the harder they should be cut.

All the Patents In

Someone poring over the old files in the United States patent office at Washington the other day found a letter written in 1833 that illustrates the limitations of the human imagination.

It was from an employee of the patent office, offering his resignation to the head of the department. His reason was that as everything inventable has been invented, the patent office would soon be discontinued and there would be no further need for his services or the services of any of his fellow-clerks. He therefore decided to leave before the blow fell.

Everything inventable had been invented! The writer of this letter journeyed in a stagecoach or a canal boat. He had never seen a limited train or an ocean greyhound. He read at night by candle light, if he read at all in the evening; more likely he went to bed soon after dark and did all his reading by daylight. He had never seen a house lighted by illuminating gas. The arc and incandescent electric lights were not to be invented for nearly a half-century.

Railroads Help Prosperity

Our railroads must be given a fair chance, not only to make reasonable profits, but also to make the necessary enlargements. The labor problem of the railroads presents some rather serious possibilities. New demands are threatened which, if carried out, would prove a heavy tax upon their financial resources. Already labor secures about two-thirds of every dollar the railroads earn, and the average wages of railroad men have risen in five years from \$620 to \$820 a year. Railroad labor doubtless has some grievances which require adjustment. Yet railroad-ing is one of the best paid occupations in existence, and has received greater concessions in wages than in any other important division of labor. Between 1910 and 1914 their payrolls have increased about \$250,000,000 on the same number of men, and the total payroll of the railroads aggregates about \$1,500,000,000 per year. Railroads are owned by about 600,000 stockholders who, it is said, secure about 2 per cent of the gross earning of the railroads, while employees receive about 45 per cent. American railroads have been seriously crippled by these and other burdens of a public nature, says Henry Clews. They have just emerged from a period of sharp contraction, and have had to endure an era of severe hostile public opinion in retribution of past mistakes. Only recently did the Government allow them to partially recoup themselves for these increased burdens by an advance in rates, which has not even yet been granted to all sections. In fact, the railroads have been struggling for their very life, threatened by demands of labor in one direction which they have been unable to refuse, and by Government repression on the other hand, denying them the right exercised by every other organization to compensate themselves for increased expenses by increased charges. If the Government is to continue to regulate freight rates, it would seem to be inevitable that it must also regulate wages, unless the railroads and the service they render are to be permanently crippled by unreasonable demands. Fortunately, railroad revenues are feeling the stimulus of trade activity, the net earnings of the roads reporting for November showing a gain of over \$50,000,000. Should this prosperity continue, the demands of labor will, of course, be less serious. But much of the present activity is in the nature of inflation and has not yet proved permanent, though for the time being it renders the wages question much less acute.

WHO

Who built our mills? Who built our railroads? Who redeemed the desert? Who uncovered the hidden richness of our mines and oil fields? Who dignified American labor and made it the best paid in the world?

The thrifty man with his savings built the factory. The capitalist with the courage of his convictions and willing to take the risk built the railroad. The farmer, following the immigrant trail, braving the dangers of the desert and turning the waters of the snowy mountain into irrigation ditches, supplanted the sagebrush with fields of waving corn and snowy cotton. Then came the demagogue.—Leslie's Weekly.

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sections and with different trees. In the eastern States the doctrine of low and open heads is constantly preached and is the right doctrine for that part of the country. Farther west, on the other hand, where the summers are long and hot, such open heads as are to be found in New York and New England are not to be desired for apples. It is simply a question as to the amount of sunlight needed for the center of the tree. Growers who are strong for open heads cut out the central leader and resist every effort of the tree to make a central growth. This works very well with trees which have a spreading habit, but others which naturally grow upright are hard to control under this system. It is a much more general practice in the West to let the central leaders grow and to develop much thicker tops than in the Atlantic States. Trees which naturally grow upright may well be headed close to the ground and particular care should be taken to cut back in every case to a bud which points outward, making the actual cut a quarter of an inch above the bud.

When trees have reached the bearing age without undue neglect, a light trimming each winter will keep them in proper shape.

Business Farming. "One-eighth of farming is science, three-eighths are art and one-half is business," is a classic quotation by Dr. Seaman Knapp, for years one of the leading men of the U. S. Department of Agriculture at Washington.

Are you making a business of your farming? Are you using business methods in operating your "farm-products" factory? The city business men believe in advertising. They say and can prove that "if you would succeed, you must advertise." Farmers who are applying business to their farming operations say and can prove that "if you would succeed, you must fertilize."

Did you ever hear of a business man who spent "too much money" advertising? Did you ever hear of a farmer who "spent too much money" fertilizing? There may be instances, but they are certainly only exceptions. Money spent judiciously by the business man "to advertise" and by the farmer "to fertilize" will always bring big returns. It pays, and is seldom if ever overdone. Frequently it is much underdone. If you must neglect any factors, slight the scientific and the artistic sides. Apply business methods to the business of farming and watch the returns.—C. D. G.

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Selecting Soils for Apples of Various Varieties

Written for Green's Fruit Grower by EARLE WILLIAM GAGE

Too many farmers underestimate the influence of soil upon the production of fruit. The character of the soil is only one of the several factors that influence orcharding or other crop growth, and soil importance in relation to the other agencies of climate, including temperatures, exposure, rainfall, surface drainage, etc., should never be overlooked.

Dr. D. T. MacDougal, in his research work for the Carnegie Institution, of Washington, in 1908, concludes that: "The facts disclosed as to the actual temperatures in the soil, the diurnal and seasonal changes therein, lead to the belief that the differences in temperature of the aerial and underground portions of plants can not fail to be of very great importance in the physical and chemical processes upon which growth, cell division, nutrition, and propagation depend."

Many failures attributed to a given location not being adapted to successful fruit culture may be found in the fact that improper soil was selected, or that the wrong varieties of fruit were planted in the wrong soil. Modern fruit men, who would be efficient and successful, must determine the soil demands made by any given plant or tree, and must apply the chemical training of the experienced men to the selection of the plot and soil.

If the climatic conditions of a given district are not favorable for a given variety, the character of the soil is of no importance to the practical grower unless it serves to offset in some degree the unfavorable tendency of the local climate. It is only within the climatic limits which favor a given variety that its behavior as influenced by the character of the soil may be studied. In like manner, surface drainage must be adequate, the water table far below the surface, and the exposures identical, or approximately so, before soil comparisons of value may be drawn. Apples ripen a bit earlier upon a northerly slope than on a southerly slope, the elevation, cultivation, fertilization, the soil, the age of the trees, etc., being the same; but an earlier soil on the north of the hill, such as sandy loam, may mature fruit as early as a heavier soil on the south side, though most of these differences are comparatively slight.

The necessity for good depth of subsoil can not be emphasized too strongly. This applies to every variety of apple or other tree fruit and to every type of soil of every series. Shallow soils should be avoided for orchard purposes wherever they occur. The presence of unbroken rock, large ledges, or hardpan within 3 feet of the surface should be considered prohibitive. A soil depth of at least 6 feet should be insisted upon wherever possible and an even greater depth is highly desirable. Soils with the underlying rock too near the surface have been responsible not infrequently for the failure of commercial orchards in some sections of the East. This is due directly to the incapacity of the subsoil, on account of the limited depth and volume, to store sufficient moisture for the tree's needs when droughty conditions prevail or to get rid of excess moisture early enough in the spring or following extended summer rains. Subsoils devoid of stones are not infrequently found that are so clayey in texture or so stiff in structure as to produce results similar in kind even though usually less in degree.

If, on the other hand, soils and subsoils of the proper texture and structure have been selected, the presence of loose stones in the subsoil in distinction from

underlying rock is immaterial so long as their quantity is insufficient to interfere to any great extent with the upward capillary movement of the moisture.

When soils have been chosen to advantage with a view to their adaption to a given crop there is no virtue, it may be repeated, in the presence therein of stones, popular opinions often expressed with regard to the tree fruits notwithstanding. This is demonstrated beyond a doubt in the fact that some subsoils are so clayey and stiff that they would have little value for tree fruits were it not for the presence of stones which offset their excessive compactness. Such a situation would make it practical to plant a section of a farm so subsoiled, to profitable fruit varieties. But the most satisfactory subsoil would be one that did not need stones to make it advantageous apple ground.

The common statement which some fruitmen make, that stones conserve moisture in the soil, as is "proved" by its condensation on the underside of stones in its upward movement from the subsoil toward the surface, is very misleading. Accepting this argument that moisture is conserved to the extent of the area dimensions of the stones, the amount so controlled is not sufficient to render cultivation unnecessary for the conservation of more moist-

ure hence the dust mulch is still necessary to accomplish the end in cultivated orchards. In uncultivated orchards where mulching is effectively practiced by hauling in relatively small amounts of material from outside the orchard, the presence of stones on or near the surface is usually of some assistance in conserving moisture, and this advantage is increased as the effectiveness of the artificial mulch (because too little in quantity), decreases. Stones are of most assistance in conserving moisture in neglected orchards where neither cultivation nor mulching is practiced, but even in this case the benefit is negligible.

Some growers use the word "hardpan" to designate a subsoil condition which delays the ready percolation of moisture. Its common use in Eastern sections, however, has led to a marked misunderstanding to include anything from true hardpan to a clay loam which may constitute a desirable subsoil for orchard purposes. A true hardpan consists not of a subsoil consisting of sufficient clay to make it retentive of moisture, but of a mixture of sand, gravel, silt, and clay with more or less cementing material which thus binds these ingredients together, causing the moisture to pass upward freely or holds it down dangerously far; or a hardpan may consist of a thin layer of mineral matter formed after the formation of the soil or during the process. Such conditions within several feet of the surface are very undesirable.

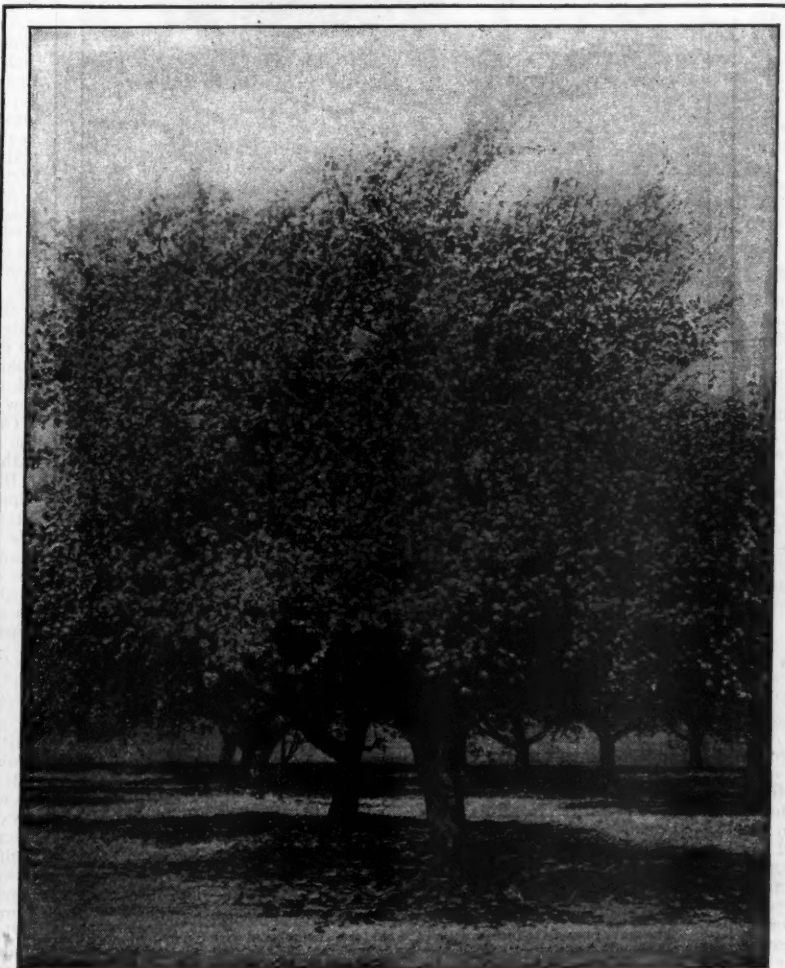
The influence which the hardpan may have upon the quantity and quality of apples produced was well illustrated recently in New England, where Henry J. Wilder, scientist in soil survey, of the Department of Agriculture, carried on experiments. In a given block of orchard where a layer of hardpan was found in depth varying from 15 to 30 inches, careful records for a number of years indicated that poor color with both Baldwin and Northern Spy varieties is characteristic. In other cases, not alone in Connecticut, Yellow Bellflower was usually found knotty when grown on hardpan soils.

In several orchards with surface soil of Gloucester type loam, but underlain in places with hardpan at depths of 18 and 24 inches and combined with a somewhat retentive subsoil, it was found impossible to grow Baldwins with good color if the orchard was cultivated. This fact the fruit grower wisely recognized, keeping his orchard in sod, removing the hay, a method which is condemned by many and properly so, but in a case well adapted to the conditions, for by transpiration of moisture through the grass plants the excess of soil moisture is reduced, thus making the soil warmer, and while the fruit is dark and dull colored at harvest time it reaches a beautiful color in midwinter, the flavor is well developed, the texture fine, and the keeping qualities remarkably good.

This illustration, taken from the experience of a practical apple grower, who bought his farm first and desired to enter the apple growing business last, should point home the fact that all orchard cultural methods should be made so flexible as to include covering the needs of the individual orchard, and not to include the general prevailing system.

If the soil is too retentive of moisture, evaporation should be hastened by non-cultivation and also, if necessary, by transpiration through growing a crop. If the soil tends to dry out too quickly, cultivation should be frequent and a

(Continued on Page 5)



If the Soil Tends to Dry Out too Quickly, Cultivation Should be Frequent

Starting Small Fruit Culture

To those starting in fruit culture for profit I would say, go slow at first. Do not try to start out on too large a scale until you have gained some knowledge of the business which can best be accomplished by experience of your own. No fruit will give quicker returns than the strawberry, or will come earlier in the season. It brings money at a time of the year when most needed. I think the strawberry the most profitable on the same amount of ground than any other small fruit. A suitable location is very essential for the berry patch. An elevated site is best with an eastern slope preferable. The fruit is not apt to be injured there by late frosts. Varieties should be selected that are best adapted to the soil. This knowledge perhaps can be obtained from neighbors who have tried and tested varieties that are desirable for your locality. Of course this applies to other fruit as well as strawberries. Also plant some raspberries, blackberries, gooseberries, currants, and grapes, which will give a continuation of crops. If you have a good market close by you can realize more for your berries in the home market than you can to ship them to distant markets. I would not ship unless I had more berries than the home market demands.

In setting out a field of ten acres to small fruit it would be well to set five of it to strawberries, three to black and red raspberries and the remainder to gooseberries, currants and grapes. In shipping make arrangements with some reliable dealer to handle the berries who will pay for them as he gets them. Also secure regular customers for the home market. This will net you a handsome income from the beginning to the end of the fruiting season. I feel safe in saying that if the soil is given the proper attention in fertilizing and cultivation there is no occupation that will bring a clearer net gain than the culture of small fruit.

The Small Farm Fallacy

Under the conditions which prevail on the average American farm, the opportunity for making a satisfactory profit varies directly with the number of acres farmed, according to farm management specialists in the Department of Agriculture. Recently a survey was conducted by the Department to ascertain the real foundation for the so-called "small-farm fallacy." The result of the investigation dissipates the prevalent notion that the ideal of American agriculture is the small farm.

In the territory surveyed, farms of from 30 to 40 acres required for each crop acre \$15 worth of machinery on an average, as compared with less than \$9 worth on farms of 160 acres and over. The small sized farms needed one horse for every nine acres as compared with one horse for more than 17 acres on the larger holdings. In spite of this increased investment per acre, the small farms were not so well equipped with labor-saving machinery.

On farms of from 13 to 40 acres the average labor income—that is to say, the money which the farmer receives for his year's work after the interest on his investment has been deducted—was only \$240, while on farms of over 160 acres the average was \$1,575.—Better Farming.

Where Lumber Goes

The people of the United States use, in a normal year, about 40 billion board feet of lumber, 90 million cords of firewood, 135 million hewn railroad ties, 30 million sawed railroad ties, 889 million posts, three and one-half million telegraph and telephone poles, 1,686 million staves, 136 million sets of heading, 353 million barrel hoops, 3,500,000 cords of pulp wood, 165 million cubic feet of round mine timbers, and 1,250,000 cords of wood for distillation. The annual growth of wood in the forests of the United States has been estimated to average approximately twelve cubic feet per acre. The annual consumption, considering the present forest area, is thirty-six cubic feet per acre. The forests of the United States are, therefore, being harvested three times as fast as they grow.—Engineering Magazine.

Tree Surgery

Edward Fontaine, a tree surgeon of Charlottesville, Va., has completed the greatest tree surgical operation ever attempted anywhere, and this has been done for Mr. John Armstrong Chaloner, of Merrie Mills. The tree is red oak and is possibly 300 years old. It is twenty-four feet in circumference, two feet above the ground, with a diameter of eight feet, four inches in its widest part. The cement filling was carried up the tree thirty-three feet from the surface and a cement leg or root was imbedded five feet into the ground to support the tree in heavy winds. The material used was six wagonloads of sand, twelve loads of field stone, twenty-eight bags of cement, fourteen iron straps to reinforce the concrete, forty-four eye bolts and a roll of galvanized wire. So far the operation has been successful.—Inland Farmer.

Dwarf Pears and Apples for Home Garden

The man with a suburban lot is encouraged to plant trees when he is assured of a crop in two or three years, and when he can have a wide variety in a little space of ground. And with these dwarf trees he can trim and spray without difficulty and with the simple apparatus which the man with a small garden is likely to have. In fact by growing dwarfs it is possible to have a miniature orchard in the back yard.

Besides the apple, the pear is the fruit most commonly grown on dwarf stocks. The varieties desired are commonly grafted on the Angers quince, a strong-growing French variety. Among the kinds which are popular as dwarfs are Bartlett, Margaret, Brandywine, Angouleme, Louise Bonne and Lawrence. Dwarf pears have been found commercially profitable by several growers.

All dwarfs must be started low and kept well headed back. They require somewhat more attention than standard trees for that reason, but the amount of work demanded when the number of trees is not large is not great. Apples on Paradise stock are often little more than bushes, but they produce the most perfect of fruit, large and finely colored. In fact the fruit grown on dwarf trees is often finer than that commonly secured from trees of standard size.



Here is a photograph of apple trees 50 or perhaps some of them 75 years old. These trees have grown naturally without much of any pruning. Notice the long main branch in the upper part of the photograph which shoots skyward, its top more than 75 feet high. If this main shoot had been nipped when it was a young tree, this would have prevented the production of fruit so high in the air that it could not be profitably gathered, that is it would cost more to gather the fruit from this high tree than it would sell for.

The lower part of the picture shows the old trees encumbered with too many branches. It would seem to be almost impossible to crawl into one of these trees to pick the fruit, owing to the lack of reasonable pruning. The trees shown are branched high from the ground to permit the passage near them of horses in cultivating and plowing. Of late years we have learned to make our trees low branched, no matter what the consequences are.

The Trees Came Back

Without the sprayer there would have been no returns whatever. Worse still, most of these orchards now yielding so splendidly would have been chopped up along with many others that had already met that fate before the sprayers came, says Farmer and Stockman.

One of the most interesting things about Doniphan county is the fact that in addition to having learned the lesson of systematic spraying and caring for their orchards the growers have also learned to a most satisfactory extent the value of co-operatively marketing their crops and buying their supplies. In fact, they learned of the benefits of co-operation quite a while before they realized the value of spraying, for it was back in 1904 that the Wathena Fruit Growers' Association was organized.

Prior to that time the fruit growers had been marketing their fruit as best they could to whoever would buy it. Realizing that they were frequently the victims of buyers who would stand together and refuse to give more than a certain price until someone had broken over and taken less, they banded themselves together in an association whose members agreed to market their crops through the hands of a manager, paid to look after the selling end of the fruit business. The idea worked from the first and today there are 148 growers on the hills surrounding Wathena who are members of the association, while a similar association at Troy organized some eight years ago contains 112 members.

Once organized the association did not stop with merely selling fruit, but turned its attention toward the buying of supplies as well as all kinds of small fruits which are grown in this district and especially in the vicinity of Wathena. Great quantities of crate material must be purchased prior to every harvest season. As a usual thing some \$15,000 is spent by the association each year for material alone. Besides buying this material the manager of the association, who is chosen by the board of directors and is on a yearly salary, looks after the markets, keeps in touch with various buyers in distant cities and each week during the summer season when the small fruits are being marketed mails out the quotations to some 5,000 buyers.

Old Apple Trees

Written for Green's Fruit Grower By
M. ROBERTS CONOVER, Red Bank, N. J.

Of all our fruit trees, the apple tree makes the greatest fight for longevity. As long as an old tree has any living bark, the effort for new growth of wood and of an effort toward usefulness is evident.

More than any other of our fruit trees the apple pleads for tree surgery. Because of the high prices of professional tree surgery, most of this work done to save apple trees is yet so haphazard and unskilled that it has not a very important effect upon the life of the tree. The mode of preservation employed should aim to make them endure as long as the surrounding parts that are to be preserved.

After observing the heroic efforts of old apple trees to prolong their usefulness it is obvious that if effectual means were taken toward preservation somewhat earlier in the life of the tree greater profit would result provided those methods were not too costly.

Illustration 1 shows an aged Pippin tree so eaten by decay that the trunk is divided almost to its base. Yet on the right of the picture, a quantity of young vigorous growth has developed all along the old bough—much of it yet too new to bear.

On the left, with its meager bark area on the trunk, the young limbs above are white with bloom.

Illustration No. 2 is an old apple tree of Nyack Pippin. It bore heavily during the summer of 1914, a heavy set of fruit that literally covered the tree. In the spring of 1915 one vigorous branch of new growth sturdily developed in the middle of the tree came into bearing and is easily distinguished in the photograph. The remainder of the tree had a goodly sprinkling of blossoms over it.

Herbert Raspberry

This red raspberry has been known a quarter of a century, but has never attained the popularity it deserves. At the Geneva station it has proved to be one of the best berries of its kind. But few nurserymen list it and many large growers have never tried it. The variety enjoys great vigor and hardiness, being more hardy than the well-known Cuthbert. There are numerous suckers and the productiveness of the bushes is almost unparalleled. The berries are much like Cuthbert but are larger, rounder and more sprightly. Unfortunately the fruits are a little softer than Cuthbert, and do not retain their shape quite as well as some other sorts. The season of Herbert approaches that of Cuthbert, often continuing a few days longer. The variety qualifies commercially in so many characters that its cultivation should be extended.

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Growing Strawberries

Editor of Green's Fruit Grower

The strawberry is seldom grown on the farm for commercial purposes, the principal reason for this being that the work of caring for the plants comes at a time when the men are needed in the field. The writer knows of one man however who operates a quarter-section farm with the assistance of one hired man, sometimes two during the busy season, and who maintains a strawberry bed of about three-quarters of an acre which nets him in the neighborhood of \$500. He markets the fruit sixty miles from home.

For the house-wife, a very fair amount of pin-money may be had from a good strawberry bed, only a little time being required each day in its care.

The following principles to be observed in strawberry culture will be found to be helpful.

The Best Soil for Strawberries

The best type of soil for strawberry culture is a rich sandy loam, but most any kind of a soil will produce good crops provided it is rich, well-drained and of loose texture. Strawberries demand an immense amount of moisture, and for this reason the soil should be in good condition to hold large quantities of it. As the water holding capacity of a soil depends largely on the amount of organic matter present, there should be an abundance of it in the soil. This can be supplied by turning under a green manuring crop or a heavy application of manure.

Weeds are bad enemies of the strawberry, and for this reason it is a good plan to have the land, previous to the time of planting, in some crop that requires clean cultivation. This will give a field practically free from weeds.

If the plants are to be set out in the spring, the ground should be fall plowed. Before planting, the ground should be worked thoroughly, and put in fine condition.

An application of some high grade commercial fertilizer should be worked into the ground before the plants are set out. This should be done at the rate of 1000 pounds to the acre either through the fertilizer attachment on the grain drill, or broadcasted. The fertilizer should contain from 3 to 5 percent of ammonia, from 8 to 12 percent of phosphoric acid and 5 to 7 percent of potash.

Setting the Plants, and Their Care

If the plants are received before the ground is ready to be planted, they should be heeled in. This is done by opening the bunches, and then placing the plants side by side in a trench, packing earth closely around the roots. All weak or diseased looking plants should be discarded. If there is any danger from frost, they should be covered.

There are several different methods of setting strawberries, but only one is described here. This is called the matted row system.

In this system, the plants are set in rows about four feet apart, the plants being spaced in the rows about eighteen inches from each other. Before setting the plants they should be pruned. The dead leaves should be picked out, and only one or two good leaves left. About one-third of the root system should be removed using a pair of scissors. By means of a dibble, make an opening in the ground using the right hand, with the left set the plant just deep enough to leave the crown exposed, and then press the earth firmly about it.

The strawberry propagates by means of runners. These stemlike growths run out from the plant a short distance and develop new plants. These new plants after a time send out other runners which likewise develop new plants. In this way, the strawberry will spread over a considerable area.

After the plants start growth, it will not be long before new plants are formed. They should be allowed to develop to a distance of from six to nine inches from the center of the row, making the width of the row from twelve to eighteen inches. The plants should be spaced about six inches apart, and all unthrifty plants weeded out. The rows should be cultivated frequently and not too deep.

In the fall, the field should be mulched with manure containing a large portion of straw, or straight straw may be used, the plants being well covered before freezing weather sets in.

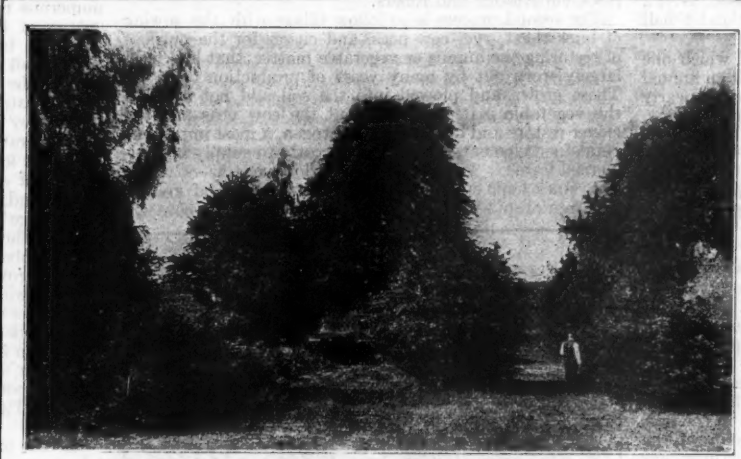
In the spring just before growth starts, the mulch

should be removed from the plants. Enough of the straw should be left in the rows and around the plants for the berries to rest on.

After harvest commences, a picking should be made every day, all ripe berries being picked. For marketing, they are usually packed in quart boxes and put in crates.

Preparation of Field for Second Crop

After the berry crop has been harvested, the mower should be run over the field, the blade being run as close to the ground as possible. The field may then be raked,



Photograph of trees, shrubbery and open lawn at the home of the editor of Green's Fruit Grower.

and the trash burned, or if a good wind is blowing, it may be burned over after the trash has been stirred up. The row should then be cut down to about twelve inches in width. This may be done with a sharp cultivator, or by plowing in the rows towards the center until the desired width is obtained, the same amount being taken from each side. An application of 500 to 1000 pounds per acre of a commercial fertilizer may be made at this time, having the same composition as that made at planting. The field should then be harrowed both width and across the rows, until it is level again. The plants must be thinned out leaving only young, vigorous ones. Care should be taken to remove all weeds. The field may now be taken care of as in the first season.

At the end of the second season, a new field is usually set out and the old one plowed up.—F. D. Lewis.

Imported Currant Worm

As soon as the infestation appears, the bushes should be thoroughly sprayed with arsenate of lead in the proportion of about 1 lb. of paste to each 30 gallons of water. If this early spraying is not made, and the insect is found to be feeding upon the foliage, the worms may then be destroyed by spraying the bushes with white hellebore in the proportion of 1 oz. to 3 gallons of water.

The first brood of this insect often does but little injury, but the second brood, which usually comes on late in July or early in August, often strips the bushes of their leaves completely and so weakens them that they cannot bear a crop of fruit the following season.

Whenever the worms are found feeding upon the foliage, the treatment above mentioned should be promptly made.—Colorado Agricultural College.



View of a small portion of the 1000 peach tree orchard of C. A. Heiges near Gettysburg battlefield in Pa. Notice the woodland in the rear of the peach orchard. Woodlands are not always helpful to peach or other orchards. If the woodlands are so situated as to shut off free currents of air, they are injurious rather than helpful. But if there is simply a woodland on one side of the orchard, it would not shut off the free circulation of air. If the woodland were on two or more sides it might be more injurious than helpful. Mr. Heiges has also a fine apple orchard near the above.

The Asparagus Bed

Written for Green's Fruit Grower By

T. H. SWEET, Va.

In an ordinary garden, and for an ordinary family, a bed of asparagus 8 x 14 feet, carefully set out, and well cultivated, would be large enough. It is better not to put a bed too near trees or large shrubs, as the roots conflict, and the asparagus, being the weaker, suffers greatly. But otherwise, as in a medium climate one begins cutting from an established bed from the middle to the last of April, it can perfectly well be put in situations which will be too shaded for late growths.

If you are new at gardening, you may never have observed that the boughs of a large tree which cast a dense shadow in late June often allows full sunlight in May, when your bed would be at its best. The size of the tree leaves contributes most to this, of course, but the point of compass and the varying course of the sun must also be taken into account.

Bearing these points in mind, you can plant a few feet away from the trunks of trees, near a tall fence, or next a building, provided only that the spot gets a generous amount of sun during May.

Make one long row, a square, or a parallelogram; and then decide whether you will buy seeds or roots. The seeds cost from five to fifteen cents a packet, and will make plants enough for a neighborhood, but it will take at least three or four years to come into bearing. You can get fifty two-year-old plants by mail for a dollar or less. These will fill your bed, and if set out in the spring, a few cuttings may be had the following season.

If you choose the seed, sow it in mellow soil, in rows like lettuce or onions and keep entirely free from weeds. As soon as the plants have made some height, thin out to larger spaces, and in two years you can transplant to a permanent bed.

The permanent beds in which one places the two-year-old roots must be very highly enriched, and then partly filled with graduated soil. The crown must be six inches below the top of the finished bed. Plant rows 3 feet apart, and spread out as flat as possible the tuberous joints of the bunch. Cover carefully with fine rich earth, covering the crowns of plants but slightly at first, covering crowns more completely as growth proceeds.

With a fine sprinkler used slowly, make the earth thoroughly wet, but not at all muddy. Perhaps later on another careful watering will be necessary if rain is rare.

Take notice that at this juncture you should have one or more furrows, six or eight inches deep, above the tops of the planted crowns. As fast as shoots reach a height of two or more inches fill in lightly with fine rich earth, a very little at a time, until by fall the whole is level with the rest of the garden.

The Rural School

Written for Green's Fruit Grower By

W. F. WILCOX, Colorado

A great percentage of the men who make good, who are the city's big successes, who get their names in "Who is Who" came from the country and secured their elementary education in the little red school house.

What a contrast! The city school with its brick walls; its fire escapes, sanitary drinking fountains, sanitary plumbing, sanitary this and that, daily sweeping, frequent scrubbing, scientific ventilation and all that, does not seem to keep pace with the rural school. Many a man who is a big power in business, sat in the now condemned straight back desks of the rural school with his feet dangling. He drank from the rusty tin dipper immersed in the tin water pail; in winter he hovered about the big box stove trying to keep warm as the wind whistled in through the cracks of the building. But the country school has fulfilled its mission. From it have come the nation's standbys, the men and women who have been bulwarks in the great battle of life.

In spite of its insanitary conditions, it will still send its quota of healthy boys and girls to take up the world's burdens.

Tillage vs. Sod

It might at first glance appear that it does not pay to give the orchard that attention which involves all the afore described operations and that satisfactory results can be obtained by allowing the trees to grow in sod, says W. Dreher of Canada. While some growers in special conditions have received fairly good returns from such orchards, the general experiments point to the fact that tillage gives the best results. Just in what particular points it gives better results can be best illustrated by quoting an experiment conducted near Rochester, N. Y., by Mr. W. D. Auchter in an orchard of nine and a half acres of Baldwin trees.

The orchard was divided into two plots, of which one was left in sod, the other tilled and seeded with an annual cover crop. The trees in both plots received as nearly as possible identical treatment as to pruning, spraying, fertilizing and all other orchard operations except the system of culture.

The results after five years are summarized as follows: The average yield on the sod plot was for the five years 72.9 barrels per acre; for the tilled plot 109.2 barrels; difference in favor of tilled plot of 36.3 barrels.

Actual count showed 434 apples per barrel on the sod land, weighing 5.01 ozs. each, and 369 apples per barrel on the tilled plot, weighing 7.04 ozs. each. The advantage of tillage over the sod mulch in the matter of uniformity of trees and crops is marked. The trees in sod showed abnormalities in foliage, branches, roots and particularly in fruit bearing and in fruit characters.

Among a number of other differences in favor of the tilled plot was the dark rich green color of foliage of the trees in the latter, indicating that they were in the best of health. On the other hand the yellow color of the leaves of the sod trees told at once that something was amiss.

The average cost per acre for the two methods, not including harvesting, was \$17.92 for the sod and \$24.47 for tillage, giving a difference of \$6.55 in favor of the sod. The average net income per acre for the sod was \$71.52, for the tilled plot \$110.43, a difference of \$38.91 in favor of tillage, an increase of 54 per cent. for tillage over the sod mulch method of management.

Some Planting Suggestions

The beauty of a shade tree depends upon its normal and symmetrical growth, says U. S. Dept. of Agriculture. In order to insure this, before planting cut off the ends of all broken or mutilated roots; remove all side branches save upon evergreens, so that a straight whip-like stalk alone remains. Dig holes at least 2 feet in diameter and 1 foot deep in good soil, and make them 4 feet across in poor soil. The sides of holes should be perpendicular and the bottom flat. Break up soil in the bottom of the hole to the depth of the length of a spade blade. Place 2 or 3 inches of fine top soil, free from sods or other decomposing organic matter, in the bottom of the hole. On top of this place the roots of the tree, spread them as evenly as possible over the bottom of the hole, and cover with 2 or 3 inches of fine top soil as before. Tramp firmly with the feet and fill the hole with good earth, leaving the surface loose and a little higher than the surface of the surrounding soil. When the work of planting is completed, the tree should stand about 2 inches deeper than it stood in the nursery.

In order to insure symmetry of growth, trees must be allowed unrestricted area for development. At least 40 feet should be allowed between trees intended to occupy the ground permanently. Quick-growing temporary trees may be planted between the long-lived ones to produce immediate results, but these should be removed as soon as they interfere with the development of the permanent plantations.

Fruit as World's Work

Finally, we think of fruit-growing as part of the great world's work, says American Fruit Grower. It is not just a matter of sordid dollars and cents, and commercial success. It is an art that brings men close to Mother Nature, develops their soul and its best dividend is the content that comes from honest work well done. To grow fruit requires vision and character. We must look up at the sky as well as down at the soil.

For it is the faith and inspiration in men that makes them do things. Some helpful philosophy of life, some sense of being worth while in the world,—these are important parts of achievement. The best fruit of the orchard in our opinion is happiness, health, beauty, a pleasant and cultured home-life, and a growth in wisdom and virtue. Without these the great crops will be but dead things.

We expect therefore to dwell upon home life and give part of our time and thought to women and children, and the big relations of rural progress as it touches all the world. You can't raise the best apples if your sole concern is just to make money. Better roads, better schools, better homes and equipment, better living—these must be discussed.

No Worn-Out Soils

There is no such thing as a worn-out soil. It is more or less depleted in fertility, but by no means exhausted or worn out. New soil is being made by the gradual disintegration of rocks, and it will be able to hold its own in quality of productions for time unknown.

The first step toward improvement is thorough tillage, and this means the removal of such stones, brush, and undergrowth as may be in the way of modern improved implements of tillage, as plows, cutaway and other harrows, cultivators, and rollers.

The second process is to follow tillage with the sowing of buckwheat, rye, cow peas, and clover for the purpose of restoring the humus or vegetable matter that has been largely worn out by many years of production of crops. These grown and plowed into the soil add not only to the vegetable matter needed, but the cow peas and red clover restore and build up lost nitrogen, a most important plant-food element, and the most costly to supply in commercial forms. After this has been done, fertilizers, either from stock kept or purchased, may be applied and greater and more rapid improvement realized.—F. H. Sweet.



If the highways of this country were planted to fruit trees, who can estimate the hundreds of millions of dollars which might thus be added to the wealth of America. Then consider how such planting of fruit trees along the highways would add to the beauty of our roads at all seasons of the year, but particularly when in blossom and when the trees are filled with the beautifully tinted fruits.

Marketing by Parcel Post

As a result of the demand for direct marketing, especially by parcel post, the Office of Markets and Rural Organization, Department of Agriculture, has carried on extensive experiments in this method of selling various farm products, says Indiana Farmer. Many successful experimental shipments have been made with eggs, butter, and lettuce, and on a less extensive scale shipments of strawberries, cherries, blackberries, gooseberries, grapes, cauliflower, and tomatoes have been tried.

One of the difficulties encountered in the practical application of marketing by parcel post is the matter of contact between producer and consumer. A producer in the country may be ready to do business by parcel post but does not know of a person in the city who wants his produce, whatever it may be; and the consumer in the city who desires to buy direct from the producer by parcel post is similarly handicapped by not knowing where to find the farmer or producer who has the produce he wants.

There are only two reasons why the consumer should undertake the additional trouble in securing produce by mail. These are economy in cost and greater freshness of product. The difference between the country and city price must be shared fairly between the producer and the buyer, and all transactions must be made with scrupulous honesty, for otherwise there is little prospect of making a success of parcel post marketing, and the benefits which should accrue to both the farmer and his customer will be lost entirely.

Two painters each painted a picture to illustrate his conception of rest. The first chose for his scene a still, lone lake among the far-off mountains.

The second threw on his canvas a thundering waterfall, with a fragile birch tree bending over the foam; at the fork of a branch, almost wet with the cataract's spray, a robin sat on his nest.

The first was only stagnation; the last was rest.

—Drummond.

Combating Currant Worms

Written for Green's Fruit Grower By
J. S. Underwood, Johnson Co., Ill.

There are two worms that do considerable damage to currant bushes, namely, the imported currant worm and the currant span worm. There are two broods of the former but only one of the latter, hence the first mentioned is much more destructive than the latter. It is the second brood of the imported currant worm that people generally notice, because the first brood does not become very numerous except in seasons when the mature insects (a species of fly known as *Nematus ventricosus*) pass the winter in better than normal condition. These flies lay their small white eggs along the main ribs on the under side of the leaves. They hatch in about ten days into whitish caterpillars about one-twelfth of an inch in length. Later they become greenish in color. These caterpillars are very ravenous feeders and usually feed in lots of 20 to 30 on the leaves. When full grown they are about three-fourths of an inch in length, at which time they drop to the ground, burrow under rubbish and pass through the pupa stage from which the mature fly issues ready to lay eggs for the second brood.

In combating the currant worms, the important thing is to destroy the caterpillars of the first brood. This may be done with Paris green or arsenate of lead. The latter is the safer of the two as it does not burn the foliage. Use two pounds to fifty gallons of water. Better still, use this amount in fifty gallons of 4-4-50 Bordeaux mixture. The reason for using Bordeaux mixture is to destroy mildew and leaf spot which are two fungus diseases affecting currant bushes. The mixture should be applied before the fruit has set.

In case one application does not destroy all the caterpillars and it becomes necessary to make another application before the fruit is picked, use white hellebore. This kills the worms both by contact and by internal poisoning. In applying it dry, mix with three parts by weight of flour. In case it is to be applied in the form of a spray, use one pound of hellebore to 25 gallons of water. Hellebore soon loses its poisonous effects, hence it may be applied to the bushes, regardless of the stage of development of the fruit.

The Walnut Tree is Long Lived

The Gardeners Chronicle, published in London, England, in 1852, speaking of the age which walnut trees attain, says:

"On the road from Martel to Gramat (Lot) is to be seen a colossal walnut tree at least three hundred years old. The height of this tree is about fifty-five feet; its branches extend to a distance of one hundred and twenty-five feet; the trunk, fourteen feet in diameter, is only twenty feet high, but it sends out seven immense branches. It bears on an average each year fifteen bags of walnuts."

And again in 1857: "In the village of Beachamwell, in Norfolk, may be seen a walnut tree (*Juglans regia*) which spreads its 'softly swelling hills' of leaves over the churchyard of All Saints Church, now in ruin, as if it sought to mingle leafy dust and human ashes. This tree has produced in one season fifty-four thousand nuts and its dimensions are as follows: Circumference of the body of the tree near the ground, thirty-two feet; height of trunk, ten feet; the circumference of the five large branches is sixteen feet, fourteen feet, nine feet, eight feet, eight feet; the circumference of the extreme spread of the tree is one hundred and twenty yards, and its estimated height is ninety feet."

Not Practical to Heat Pennsylvania Orchards

Pennsylvania's fruit industry has not yet reached the point where it is practicable to heat orchards with smudge pots or other devices in the early spring and be sure that by so doing one can guard against frosts. An orchard firm, which made inquiry about this matter of State Economic Zoologist H. A. Surface, has been written the following advice:

"Concerning smudge pots for heating orchards in the spring, I have not had personal experience with them. I know where heating has been tried unsuccessfully in this State. It has failed from two standpoints. First, some orchards near mine were heated at considerable expense and my trees, which were not heated, bore so much fruit that they had to be thinned, thus I would have lost had I attempted heating. Second, I know where some growers have heated and others have not and both lost all their crops. It may be that in the course of time some system of heating will be devised that may be successful and satisfactory in this part of the country, but the conditions are so vastly different from those in the far West that we can only say smudging and heating is yet in its experimental state in the orchards for this region. Being experimental I recommend persons to try it, but remember that we cannot recommend this with certainty."

"If we do not do it, we have 25 million acres of land in the New Brunswick province, once more of the orchard of age, and the says Canadian The Com to great poss cities. One do not eat ap that should bring the me the Governm fall. The re that fully 30 as a result of sumed were recommended extensively for the desirability shipments by Ottawa last purchased at cars in bulk, and sold at forty cents p to consumers economy of t largely to the In another themselves in We cents deliver protected with and the apple tawa the appl and delivered a barrel. A sell the whole

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Prof. J. W. cussion. He sponsibility of keting by the cable or desir to the wholes on it is the co tail prices, not by retail deale each with a ve of giving the c it until munic tribution was did something tal dealers.

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Canadian Fruit Growers in Convention Greater Production Assured

"If we don't find some way to increase consumption," said Mr. Johnson, "we will soon have over-production. We have 25,000,000 fruit trees in Canada. In the Annapolis Valley not 50 per cent. of their trees are in bearing. New Brunswick is also planting. Quebec is coming in once more with McIntosh and Fameuse. Two-thirds of the orchards in British Columbia are under five years of age, and the other one-third are only beginning to bear," says Canadian Horticulturist.

The Commissioner was not pessimistic. He pointed to great possibilities of market extension right in our own cities. One-half of our urban population, he estimated, do not eat apples at all, and not one-quarter of the amount that should be consumed is now marketed. It was to bring the merits of the apple before city consumers that the Government conducted its advertising campaign last fall. The results were gratifying. Mr. Johnson stated that fully 30,000 inquiries had been received at Ottawa as a result of the campaign. "More apples would be consumed were it not for the price," was his comment. He recommended the bulk car method of shipment adopted extensively for the first time this season. He contrasted the desirability of two methods of handling these bulk shipments by using as illustrations two cars shipped to Ottawa last fall. In the first instance the apples were purchased at twenty-five cents a barrel, loaded on the cars in bulk, carried one hundred and fifty miles to Ottawa, and sold at one dollar to hucksters. The dealer made forty cents profit on the shipment. The hucksters sold to consumers at two to three dollars a barrel. Hence the economy of this method of handling fruit did not redound largely to the benefit of the consumer.

In another instance the City Council of Ottawa interested themselves in the marketing problem. They bought the apples in Western Ontario, paying the fruit grower forty cents delivered at the car. The bottom of the car was protected with six inches of straw, the sides were padded, and the apples piled in to a depth of three feet. At Ottawa the apples were bagged at a total cost of seven cents, and delivered in the consumer's cellar at sixty-five cents a barrel. A single notice in the paper was sufficient to sell the whole car.

"In this case," said Mr. Johnson, "the producer got all he asked, and consumers had their apples at less than one-half what it usually cost them. Had more apples been available at this price, twice as many would have been used." There will always be a demand for good barrelled and boxed fruit. But for the marketing of inferior goods even in the best of seasons, Mr. Johnson recommended the bulk shipment.

Marketing Problems

Prof. J. W. Crow, O. A. C., Guelph, carried on the discussion. He drew a sharp distinction between the responsibility of the grower and the consumer. Retail marketing by the producer he did not consider either practicable or desirable. "When the grower follows his apple to the wholesale market," said Prof. Crow, "from then on it is the consumer's problem." He attributed high retail prices, not to the immense profits that are being made by retail dealers, but to the multiplicity of fruit stands, each with a very small turnover. He saw very little hope of giving the consumer fruit as cheaply as he should have it until municipal governments recognized that fruit distribution was a subject for Government regulation and did something to curtail injurious competition among retail dealers.

The idea of growers advertising their products more extensively appealed to Prof. Crow. He believed that through reasonable advertising it would be possible to educate consumers to call for the different varieties in their season and not to limit their demand, as many do, to Snows and Spies. A more immediate duty of the grower, however, is to place on the market a product of higher uniform quality. No one operation, he contended, would contribute more to this end than thinning, and he gave figures estimating increased returns on one hundred barrels of fruit at twenty-three dollars and forty-nine cents, all as a result of thinning the fruit on the trees.

Selecting Soils for Apples

(Continued from Page 1)

good supply of humus maintained to conserve the moisture. While such manipulations of methods to meet the requirements in the individual orchards should constantly be made use of, it has its limitations and does not do away with the desirability of selecting the soils best adapted to the individual variety; that is, those soils which will require a minimum of manipulation to effect the best soil environment. Such soil adaptations serve as a guidance, furthermore, to the moisture requirements of the different varieties, and so to the character of cultivation the different varieties demand.

Orchard fruits differ from annual farm crops in that they occupy the ground for a long term and are subjected to climatic conditions for 12 months of the year, and the transition periods from dormant to active are not infrequently a severe test upon the trees. The best results are obtained from orcharding when all contributing influences are favorable. The soil, which is one of these, is a subject that should receive great attention.

Conditions found existing in a large number of Eastern apple orchards advise us that soil for any kind of orchard planting should be deep, well drained and friable, yet not so porous as to be droughty.

Binding to Induce Fruitfulness

Written for Green's Fruit Grower By
H. W. CURRIN, Supt. Sunnydale Orchard Co.,
Oregon

Our method consists of tying a twine around the trunk just below the crotch during July. The expansion by growth causes a tightening of the twine resulting in a stricture which retards the downward flow of assimilated food from the leaves but not the upward passage of sap through the outer wood cells. This damming up so to speak causes a more abundant supply of starchy food about the buds in the upper portion of the tree. As a result it is hoped that the buds will be nourished sufficiently so that the following season the fruit buds will blossom and produce virile pollen and more leaf buds will develop fruiting wood. In short the energies of the tree



This little girl, photographed by F. J. Dolby, is greatly interested in a basket of chickens which are looking up to her with expectancy. I know of few things more interesting than young chickens, young birds, and young pigs before they have learned to be mischievous.

are directed to fruiting tendencies rather than allowed to continue root development and wood growth.

The binding was practiced this season (5th year) only on those trees which had reached a profitable bearing size and were making such rapid terminal growth as to warrant the belief that the binding in addition to our regular light summer tipping would be beneficial. Over fifty per cent of the young trees have been bound. The Anjou pear especially needed this treatment to correct its tardy bearing habit. A few bindings were removed in September to prevent possible girdling. The balance will be cut during winter pruning. We do not anticipate any binding at all will be needed after the sixth year.

In 1914 a few pears were bound and showed very noticeable development of fruiting wood and strong buds. Mr. Bedtelson of Otis Orchards, Washington, reports splendid results from binding his young trees. He used wire, putting them on early in June and leaving them 90 to 100 days. One often sees where binding has taken place unintentionally by tag wires or bands that have been left on the trees, or where the tree has been partially girdled by borers or injury to the bark. In these cases the increased fruitfulness is usually very marked. This principle of the stricture is the same as nature applies in making the trees fruit full.

Easy to Raise -- Good to Eat

Is there any one who does not like strawberries freshly picked from the vines? says Farmers' Review. They are surely fine—fit to tempt the appetite of the most fastidious. Yet many farmers fail to grow enough for home use. They seem to think there is some mystery about growing something that only an expert can understand.

Some will make sport of you if you say they are just as easy to grow as potatoes or corn, and that any land that will grow corn or potatoes will grow strawberries.

It is no more trouble to raise strawberries than either potatoes or corn. Some call them luxuries and say they cannot afford to have them. Of course we can get along without them. So could we get along without many other things that are on our tables daily. This is very weak argument against their use. It seems to us there is no good reason for any farmer not to have a few rows of strawberries in his garden.—T. T. Smith, Montgomery Co., Ill.

Cherry Pits to Make Valuable Products

Specialist Experimenting on Juice and Pits

Sixteen hundred tons of cherry pits, now a source of annoyance and expense to canneries, can be made to yield two valuable oils and also a meal for feeding cattle, according to specialists of the United States Department of Agriculture. In addition 105,000 gallons of cherry juice now wasted in seeding cherries can be turned into desirable jelly and syrup, or even into alcohol. A saving of these valuable by-products from cherry canning may make possible almond oil, now imported, and at the same time establish a new industry in the cherry packing districts of the North Atlantic, North Central, and Western States.

Some time ago there was similar investigation of the use of peach and apricot pits for making oils and meal, and a commercial enterprise has been established in California for dealing with these products. The Department has published a bulletin on this subject and also one dealing with the utilization of raisin seed from the seeded raisin industry. It was found that many tons of raisin seed had considerable fruit adhering to them which could readily be turned into a very desirable raisin syrup for the use of confectioners and others. After this pulp had been used it was found that an oil useful in the arts could profitably be pressed from the seed, and experiments are under way to determine whether the crushed seed could not be used to advantage in feeding stock.

The following description of these products, and methods which have been developed for making them, are taken from Professional Paper 350, "The Utilization of Cherry By-Products," by Frank Rabak, Chemical Biologist, Bureau of Plant Industry.

Volatile Oil

The volatile oil, the second product, remains in the pressed cake after the fixed oil has been extracted by pressure or by solvents. The volatile oil is then secured by chemical means and distillation. In the experiments the oil was obtained at the rate of nearly one pound for every 100 pounds of residue treated. It is estimated that 6,000 pounds of this volatile oil could be obtained if all the cherry pits handled at canneries could be used.

The value of this by-product, based on the current prices for the very similar imported bitter almond oil, would be in the neighborhood of \$54,000.

Press Cake

The press cake left after both fixed and volatile oils have been removed, is believed to contain substances which may make it a desirable stock food. Its most important constituents, as shown by analysis, are fat; protein, including nitrogen compounds; and sugar and other carbohydrates. The protein amounts to 30 per cent and in this the cake compares favorably with other stock foods. If cherry kernel meal proves in practice to be as good for food as the laboratory analysis would indicate, the annual value of this product would be about \$12,000.

Jelly, Syrup and Alcohol, from Waste Cherry Juice

The 105,000 gallons of cherry juice wasted each year in the canneries, the experiments show, would, if collected and treated, produce 85,000 gallons of desirable jelly or a large quantity of table syrup, or could be made to ferment and produce alcohol. In the experiments a cherry jelly, bright red in color and with a fruity odor, was made by concentrating the cherry juice with cane sugar in a vacuum. A small amount of gelatin was then added and the mixture allowed to cool.

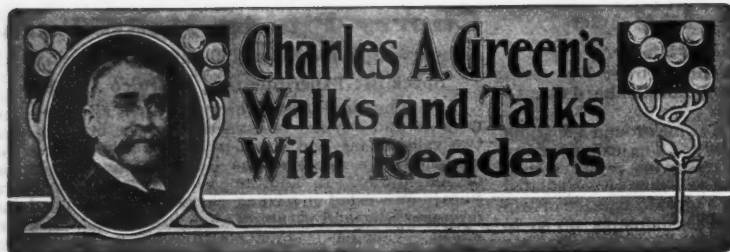
The juice also could be made into some 21,000 gallons of an agreeably-flavored table syrup by neutralizing the acid in the filtered juice with milk or lime and concentrating it by evaporation and then settling or filtering out the lime compounds.

The cherry juice, if fermented by the addition of yeast and then distilled, can be made to yield 36 per cent. of absolute alcohol or about 5,000 gallons.

Good Roads & Preparedness

"It was fortunate for France that she did not spend all her money in the building of good roads instead of for preparation for war, else she would have been at the mercy of the German hosts," remarked Francis Hapgood, an American traveler, who has spent many years in Europe. "But France has shown the world that she can prepare for war and at the same time build good roads, for France has the finest roads of any country in the world—that is, she has the highest percentage of good roads, more than 25,000 miles of the best made roads and many times that of second-class highways," says Indiana Farmer.

"This country is making headway in the construction of good roads, not so rapid headway perhaps as the advocates of good roads would like, but progress. It will be many years before we can hope to reach the standard set by France. There are in the United States approximately 2,500,000 miles of roads of all kinds, good and bad, and about 120,000 miles of good roads, macadam and concrete. Road construction is bound to be slow because of its great cost. Figures show that the average cost of sand-clay roads in the United States is \$700 a mile, of gravel roads \$2,000, of macadam \$5,000 and of asphalt macadam \$10,000 a mile. It has been estimated that the States are spending about \$250,000,000 a year on roads, and the expenditure is increasing every year. Europe has a great advantage over us, because the old countries have handed down to them the best kinds of roads for centuries.



Laws About Grading Apples

There are many people who hold that almost anything can be accomplished by state or national laws or legislation. This is undoubtedly a mistake. While there are some affairs that can be mitigated by legislation there are many that are most difficult and impossible. I have in mind the recent law in New York state which specifies how apple growers shall grade their fruit and punishment for those who do not grade according to this new law. While the new law has been in force now over a year, I hear of no prosecutions for violations of this law, but I hear of numerous violations of the law. The packing of apples seems to be going on much as of old, which means that the buyer inspects the apples he buys and pays according to what he sees, without depending upon any law either state or national.

Many of our lawmakers, in fact most of them, are limited in knowledge of many industries or pursuits, in fact it cannot be expected that one man will be an expert in everything. The making of vicious laws, or laws that cause much trouble and vexation of spirit to honest men, comes about through the ignorance of the lawmakers on certain subjects. A lawmaker who is well informed in regard to apple growing and apple packing would see at a glance that it is impossible to control the grading of fruit by legislation.

Some years ago a state law was enacted requiring that no vinegar claiming to be cider vinegar should be sold in this state unless it was of a certain degree of strength. There were other requirements which I do not now recall, but how was any farmer to know whether each barrel of vinegar in his cellar or all of them were capable of standing the test required by law. Probably every barrel was of different strength. This law caused serious embarrassment to honest men who were deprived of the opportunity of selling vinegar to their neighbors or grocers, and yet I do not know of a single case of prosecution of any individual for selling vinegar as he saw fit, thus this law was like many other similar laws which have faded away and are forgotten, and such is likely to be the case with the apple grading law.

In some states every orchardist is compelled to spray his trees. Whether he has one tree or 10,000 he must spray for injurious insects. I cannot recall where any orchardist has been punished for not spraying his orchard, yet there are numerous instances in every township where they have not been thus sprayed. It would require an immense police force, embracing hundreds of thousands of men to enforce such a law as this. P. S. Since writing the above I learn from a prominent fruit grower that in his opinion the new apple grading law has been helpful to the apple trade and to fruit growers.

The Importance of Nut Growing

As the world grows older more attention must be given the various food products. Lands devoted to wheat, corn and other similar products gradually lose their ability to produce these crops after a number of years. Later on in the history of the human race the question will be raised, What food product may be produced in the greatest abundance from an acre of soil and at the least expense of labor and capital? When this question is answered it may be discovered that nut trees will produce more nourishment at less expense than any other crop.

A grove of pecans, English walnuts, butternuts, chestnuts, black walnuts, when they come into bearing will produce fruit abundantly without cultivation or other expense than that of gathering the nuts and marketing.

Aside from the ease of production nuts are more attractive than many other items

of food, are remarkably nourishing, and contain no germs of disease, as are often found in various kinds of meat. Prof. H. E. Van Deman proved himself a far-seeing man when he planted to nuts a large part of the thousand-acre tract along the shore of the Mississippi river in Louisiana. It takes time and patience to establish a large nut orchard of this kind, but when once it comes into bearing it should prove a valuable gold mine.

An acre of apple trees may produce more bulk of food than any other method of soil production.

Bird Love

Birds are an interesting study. Those who live in the country where birds most largely congregate have opportunities in bird study to add much to the pleasure of rural life.

The love-making of birds is an interesting affair. In most instances the mother bird is something of a quaker dressed in drab or modest color, whereas the father has more beautiful plumage, more gaily decorated with bright colors.

Listen to the song of the robin at four o'clock in the morning. He is perched on the highest branch of the maple or elm and is serenading his sweetheart. By and by they will be building a nest. They prefer the location near a dwelling for the reason that the crows and other enemies dare not come there to carry off their young.

Listen to the bobolink. In June he is most melodious. He sits on a spray of clover or a swaying branch of elder and pours out his little soul eloquently to charm a coy little brown maiden not far away. Later in the season the songs of these birds are not heard, for father and mother are otherwise occupied than in singing or listening to love songs.

Many birds not gifted with the ability to sing make a great showing of their plumage in the presence of their sweethearts. Among these are the partridge, the turkey and the peacock.

Permanent Strawberry Beds

A correspondent from Indiana has written an interesting account of his permanent strawberry bed, which we propose to publish, though we would not choose such a method as that for ourselves. My experience with the strawberry, raspberry, blackberry, currant and gooseberry, and with the various fruit trees is that so far as it is practicable it is best to set out new plantations on other soil rather than to attempt to continue growing the fruits in the same bed or the same spot for many years.

Our experience at Green's Fruit Farm teaches us what the farmers have learned in regard to rotation of farm crops, and that is that rotation is good for any kind of a crop, and that if you were to plant a new peach orchard in place of the old one, or an apple and pear orchard, or a strawberry bed, it would be better to select a new site rather than to plant any of these fruits on the sight of the old bed or the old orchard.

The indication is that different fruits and different farm crops require different plant food, or in different proportions, and that these various products in growing throw off something poisonous or objectionable to themselves, thus unfitting the soil to a certain extent for further planting to the same product.

Weeds. It has been difficult to specify what is meant by the word "weeds." We cannot say that weeds are useless or that any useless plant is a weed, for all plants are helpful in building up the fertility of the soil by their growth and decay. It is much better to have the surface of the earth covered with weeds, rank or otherwise, than to have the soil barren, for if the soil

is left uncovered it will deteriorate in fertility. Weeds are more persistent in vigor and growth than the average cultivated plants, therefore we are called upon to interfere with the vigor of weed growth in order to protect the plant we desire to preserve.

We must not forget that weeds or grasses sometimes develop through a long period of years into products useful to man. Our corn, wheat, oats, rye, barley, at one time in the earth's history might have been called weeds, for they were of little service to mankind. These wild plants have been improved by selection and cultivation up to the present day when they are of great value to mankind and are still being improved so that they will be of vastly greater value to coming generations.

Tonic for Pigs

I was surprised recently to see an article headed as above. I have had experience with pigs from early boyhood up to the time I was old enough to vote and for a somewhat longer period, and I never discovered that my pigs needed any tonic. As far back as I can remember I bought a mother pig with ten or twelve little ones. Father furnished the corn to fatten them, thus my profits were large on this transaction.

These pigs were spry, they might even be called athletic. How well I remember pouring the swill mixed with bran or oatmeal into their trough, how fiercely they fought one another, and how they climbed over one another's heads and backs, or how one or two would sometimes get lengthwise in the trough to keep the others out. If any child or other wayfarer would happen to be in the yard when I approached the feeding trough with food, this vigorous brood of pigs would be apt to trample them under foot and possibly punch out their valuable lives. The mother pig had a way of getting into the corn field, which for a long time could not be discovered, as the fence seemed to be in good repair. After a long search a hollow log was found over which the fence had been built. Our shrewd and accomplished pig entered this thoroughfare from the pasture side and soon landed in the corn field on the opposite side of the fence. She never returned home through the same passage, but always came whining to the gate after feeding upon the fine and succulent corn.

When I moved to Green's Fruit Farm I thought surely we must keep pigs, as I had never known of a farmer who had succeeded in getting along without more or less of these incumbents. As I abandoned all fences on the fruit farm, these pigs were confined in the barnyard, which did not seem to meet their expectations or requirements as regards exercise or wide range, therefore the moment any gate was opened, these pigs would make a wild dash for liberty. In vain would I or one of my assistants stand guard with a heavy stick or pitchfork. If we got in the way of the pig, so much the worse for us. After the pigs had escaped from the yard they would scatter in various directions, in the strawberry patches, garden, corn field, or wherever they had on previous occasions found the most choice dainties in the way of food.

So far as tonic for pigs is concerned, my experience would induce me to recommend a sedative or even an injection of chloroform.

New Experience Regarding the Action of Bees in Orchards

I find in "Gleanings in Bee Culture" considerable space given to the experiments of Professors Gossard and Walworth, bacteriologists, who after careful investigation have discovered that bees suck nectar from blossoms for sometime after the petals have fallen. This indicates that much spraying has been done on apple trees to the destruction of honey bees, since fruit growers have felt that when the petals have fallen it is safe to spray without injury to the bees. These men now find that the bees prefer the blossoms on which the petals have fallen rather than the blossoms on which the petals are fresh and bright.

Bees Helpful to Fruit Growers

Green's Fruit Grower intends to continue to say over and over again that bees are the friends of fruit growers. If you will walk through your orchards and berry fields, and particularly the fields of strawberries in early summer when the plants are full of blossoms, you will hear the hum-

ming of bees. If you look around you will find on every plant a honey bee gathering sweets and distributing pollen from one blossom to another. This distribution of pollen is essential to the production of profitable crops of fruits. If you do not keep bees you are relying upon the bees of your neighbors to fertilize the blossoms of your fruits. Whatever you do, do not spray your trees, plants or vines while the bees are gathering honey, for if you do you will destroy myriads of your helpful bee friends.

The Van Deman Early Peach

For several years the lamented Prof. H. E. Van Deman has been telling me of a wonderful peach which was discovered on a farm near Prof. Van Deman's summer home in Benzie county, Michigan. Prof. Van Deman said that this was the best early peach he had seen or had any knowledge of and that it was the only yellow freestone peach of high quality ripening with the earliest. Since Prof. Van Deman had no superior as a discriminating judge of fruits, and since his expert knowledge was in demand at all the great exhibitions in this country, including such national shows as those held at Chicago, St. Louis, Buffalo, Philadelphia and elsewhere, it is hardly possible to overestimate his opinion of this valuable new peach. But a short time before the death of Prof. Van Deman he secured buds of this valuable new early peach and sent them to me for propagation, suggesting that we name it the Evans peach, since it originated on the farm of a man by that name who has since died. As Prof. Van Deman was the discoverer and promoter of this new yellow freestone peach, it seems proper that it should be named the Van Deman in honor of my friend and co-worker with whom I have been associated for nearly forty years.

The objection to many varieties of peach, which are of themselves desirable in productiveness and quality, is they come in about with the Crawford's Early during the rush season when peaches sell at a lower price than they do earlier in the season or later in the season than the Crawford's Early. This new Van Deman peach ripens much earlier than Crawford and yet is of the Crawford type, therefore it must prove of great value to the market man who heretofore has not found any freestone yellow peach, which is so much desired and so long sought for.

A Quarrel in the Stomach

Some things will not agree with other things. This is particularly true of different articles of food which we place in our stomachs. While it is desirable that our food rations should vary and be somewhat mixed, if we can early in life discover what two articles will not lie comfortably side by side in our stomach or will not mix well therein, we may add greatly to the length of our lives.

I am told that fresh picked cherries must not be eaten with milk, or beer and milk. Some say that grape fruit eaten at breakfast and followed immediately by milk or cream and cereals will cause distress, but such a mixture does not cause distress in my stomach or in the stomach of some of my friends, yet it would be better if the grape fruit or oranges could be eaten one-half hour before the cereals and cream.

I do not advise you to drink beer at any time, but if you do drink it, do not drink the beer after or just before eating oysters. A friend tells me of his visit to Chesapeake Bay to deliver a team of horses. He was feasted there on the delicious oysters freshly captured from the bay. He was accompanied by a man over eighty years old, who also ate freely of the oysters. At once after the oyster supper they both drank beer and were taken violently sick with excessive pains of the stomach and thought they were going to die on the spot, but were relieved by taking an old-fashioned cholera cure.

We are often told that fruit is golden in the morning, silver at noon and lead at night, but I can eat apples at any time of day without distress, but I would not eat so many apples just before retiring at night as I would in the morning and noon.

We should remember that what is good for one person may be poison to another, and yet the majority of us are similarly constituted as regards what we can eat with safety. There are some people with stomachs so sensitive they cannot eat ripe strawberries.

Why pay Tire Bills for Others—— ——i. e., for RECKLESS Drivers



THIS to the American who hates to be "the Goat"! Tires CAN be sold on a "BUSINESS" basis, with sufficient profit to both Manufacturer and Dealer, as *Goodrich* experience proves.

But, they can *also* be sold on a PREMIUM basis, whereby the "Safe and Sane" Car-Owner pays for the Speeding Propensities, and Careless Driving, of Others who, leaning upon an extravagant "Guarantee," knowingly burn up Tires in half their natural Life and Mileage.

Speed-Maniacs and Careless-Drivers may very PROPERLY pay the *Premium* over normal Value (which is really an Insurance Premium), on fancy-priced Tires.

Because, the Premium *they* pay may be less than half what *other* Careful Car-Owners indirectly contribute *for them*, when buying the same brand of Premium-priced Tires, and *using* them so reasonably that practically no "adjustments" are, in their case, demanded, though paid for in the Premiumed Price.

AMERICANS who want *their money's worth*,—who dislike to pay for the Reckless-driving extravagance of *Others*,—in the price of *their own* Tires, should sit up and take notice of following

FACTS:—

The current Goodrich "Fair-List" price on Tires, is based upon *what it costs* the largest, and best equipped, Rubber Factory in America to *produce* them.

No "Insurance" Premium added to the NORMAL retail price of *Goodrich* Tires, in order to protect the *Reckless* Driver at the expense of the *Careful* Driver, through a fancy List Price which is *high* enough to absorb that Premium.

The *excess* Mileage each Goodrich Tire is reasonably certain to *deliver*, when given reasonable care in driving, thus becomes clear "Velvet" to the Owner of *GOODRICH* Tires.

Money *can't* make, and *can't* buy, *better* Tires of Fabric construction, than *Goodrich* Safety-Tread Tires, as *Test* will prove.

And, money *can't* buy the B. F. Goodrich Co. to produce *Tires* which would *discredit* the 269 *other* lines of Rubber Goods made by the B. F. Goodrich Co., for which its name stands Sponsor.

COMPARE prices on Goodrich "Fair-List" Tires with present prices on any other *responsible* Tires in the field bearing in mind that NO "LARGER-SIZED" Tires (type for type and size for size) than *Goodrich* Black-Treads, are made in America.

Then, Test out at least ONE pair of Goodrich *black-tread* Tires, on their *per-DELIVERED-Mile* cost to you, against *any* other Tires in the field, at *any* price, and,—abide by the Result.

Why (if YOU are not a Reckless Driver) should YOU pay MORE than the "BUSINESS" price of the Goodrich Tire, for ANY Fabric Tire in the field?

Get a sliver of the new Goodrich "Barefoot" Rubber from your nearest Goodrich Dealer or Branch.

THE B. F. GOODRICH CO.
Akron, Ohio.

30 x 3	}..... Ford Sizes.....	\$10.40
30 x 3 1/2		\$13.40
32 x 3 1/2		\$15.45
33 x 4		\$22.00
34 x 4	Safety Tread.....	\$22.40
36 x 4 1/2	"Fair-List".....	\$31.60
37 x 5		\$37.35
38 x 5 1/2		\$50.60

NOTICE.

"No Concern in America made, or sold, during its latest fiscal year, nearly so many Motor-Car Tires as did The B. F. Goodrich Co.
"Our published Challenge, still unanswered, proves this."

GOODRICH—— ——"BAREFOOT" Tires



The Kingdom of the Subscriber

In the development of the telephone system, the subscriber is the dominant factor. His ever-growing requirements inspire invention, lead to endless scientific research, and make necessary vast improvements and extensions.

Neither brains nor money are spared to build up the telephone plant, to amplify the subscriber's power to the limit.

In the Bell System you have the most complete mechanism in the world for communication. It is animated by the broadest spirit of service, and you dominate and control it in the double capacity of the caller and the called. The telephone cannot think and talk for you, but it carries your thought where you will. It is yours to use.

Without the co-operation of the subscriber, all that has been done to perfect the system is useless and proper service cannot be given. For example, even though tens of millions were spent to build the Transcontinental Line, it is silent if the man at the other end fails to answer.

The telephone is essentially democratic; it carries the voice of the child and the grown-up with equal speed and directness. And because each subscriber is a dominant factor in the Bell System, Bell Service is the most democratic that could be provided for the American people.

It is not only the implement of the individual, but it fulfills the needs of all the people.

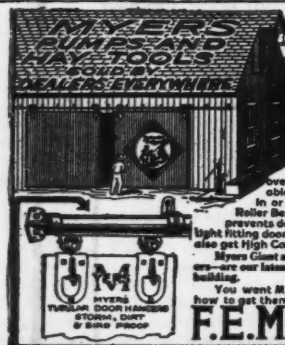


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The Albanian Relief Fund
The Albanian subscribers to Green's Fruit Grower and any others interested in the Albanians are asked to send money to these worthy but afflicted people, addressing all letters to Albanian Relief Club, 70 Fifth Avenue, New York City.

The men doing helpful work in connection with this fund are notable New Yorkers, many of them well known to the editor of Green's Fruit Grower as responsible citizens. I assume that money, food or clothing would be acceptable. Even ten cents would be a help. A bit of bread from each of the well fed to one of these will feed all.



Fruit Helps

By Prof. H. E. Van Deman

The Pleasures of Horticulture

How many of us who enjoy the pleasures of horticulture really appreciate them? As with many other of the good things of life, we take them for granted and think too little of them, and not until we are deprived of them do we realize how essential they are to our happiness.

Plenty of Good Fruits to Eat

One of the very delightful parts of horticultural life is having an abundance of good fruits to eat. If one is a true horticulturist, he and his family have plenty of fruit throughout the entire year. The fragrant strawberry opens the fruit season in the temperate zones. Before the latest strawberries are gone the early cherries are ripe. From strawberries and cream we turn to cherry pie, and neither is bad to take. A little later the raspberries, blackberries, currants and gooseberries follow, without a day's intermission. The early peaches, plums, apples, pears and apricots come in before the berry season is over, and the apples and pears, by their wonderful variety, continue to furnish fresh fruit until strawberries come again, in most sections, if suitable varieties are selected. The grapes also cover a long season, in the fresh state, when properly handled. Cranberries are easily kept until the early summertime.

Of semi-tropical fruits; such as the orange, lemon, lime, pomelo, fig, olive, date and many others, our country produces far more than most intelligent people imagine, and it may be made to produce many more. Those who have never eaten pineapples that have fully ripened where they grew can have no correct idea of their deliciousness. The tough, woody, half-ripened ones we usually see in the markets are not to be compared with the soft, pulpy ones that are eaten fresh from the tropical gardens. There are also some tropical fruits grown within the United States, of which the pineapple is the chief. To go through an orange orchard, one variety after another, to compare them and find which are the best, is one of the pleasures that the ordinary farmer cannot enjoy. And those who live in the warmer parts of Florida and California have a multitude of other delicious fruits that can only be enjoyed in their greatest excellence there; and of which their Northern friends can know but little, except by hearsay.

In the matter of canned, preserved and dried fruits, the fruitgrower's family can easily have the best the world affords. Those who have to buy it are not nearly so likely to have so much, or that of such good quality, as those who have an abundance at home. In our own case, there has not been a day since we began to keep house that we did not have on hand plenty of good home-grown and home-preserved fruits of several kinds. When one has to go to the store for it they are not apt to get very much nor always that which is good. The market fruit-eaters may have to be satisfied with Ben Davis apples, while their country cousins luxuriate in Grimes' Golden.

As a matter of fact, those who eat an abundance of fresh, ripe fruits are healthier than those who do not. The doctor's visits are far less frequent at the homes where fruits are grown and used as freely as any other food. They are not only delicious and wholesome, but economical as well.

Pruning Cane Fruits

Written for Green's Fruit Grower By J. S. Underwood, Johnson Co., Ill.

As every cane fruit grower knows, each year blackberries and raspberries produce new canes. When the new growth has attained a height of 18 to 20 inches for black and red raspberries and two feet for blackberries I break off the tip end of each cane. No shears or other pruning device is required. The work can be done with the thumb and forefinger as the new growth

snaps off easily. It is especially important that the shoots be nipped when they reach the height mentioned instead of being cut back to that height after growing beyond it.

A long cane with all the laterals near the top is likely to lop over nearly or quite to the ground when laden with fruit unless it is given some artificial support. If the shoots are nipped at the proper time they will develop into strong stocky canes, well supplied with strong laterals and in the case of most varieties will be capable of holding up the fruit without support.

I stop the young growth of gooseberries and currants at a height of 15 to 18 inches. The new canes are not all produced at the same time and some do not develop as rapidly as others, thus making several tipplings necessary before all of the new wood is pinched.

After harvesting the fruit I cut and burn all blackberry, raspberry, currant and gooseberry canes, and from the raspberry and blackberry plants I remove all wood older than the present season's growth and also new canes that are weak and crowding. I leave six to eight canes per plant of red raspberries and blackberries but fewer canes (about four) of black raspberries, since these naturally make more branches. From gooseberries and currants I remove all canes over three years old and allow a new shoot to take the place of each old cane removed. After pruning, a bush consists of six to ten canes of all ages from one to four years, and there is approximately an equal number of canes of each age.

In addition to cutting out old canes and superfluous young shoots the young wood on the old canes that are left is thinned out and shortened to 8 to 12 inches. For cutting out old canes I use a pair of two-hand pruning shears, the handles of which are about three and a half feet long. An iron hook is fastened to one of the handles just above the bolt which holds the shears together, this hook being used to pull old canes out of the row after being cut.

The Farm Garden

By J. S. Gardner, Missouri College of Agriculture

Whether the garden is to be a success or not depends, in great measure, on its location with reference to the home, and to the farm buildings. It should be easily reached both by those who care for it, and by the housewife who does most of the harvesting. It should be so placed that plows and other tools do not need to be brought far, for this takes time and labor, and makes the garden work expensive. Then, too, if the garden is close at hand, spare times now and then can be used in going over it.

The garden is generally well drained, but, if it is not, laying a few lines of tile in the garden will frequently pay. Early vegetables will not do well in a water-logged soil and late ones are injured almost as badly. On the other hand, most vegetables need plenty of water to thrive and produce well. Their roots are so shallow they cannot go down to a deep water table in dry seasons as trees can, so artificial watering may save the garden and it is a great convenience to have some sort of water supply near at hand.

The soil should be fertile. Vegetables are heavy feeders, but they will return, many times over, the value of the manure used in building up the soil. Barnyard manure is the best general fertilizer to use both for its plant food value and for its tendency to lighten up tight and clayey soils which drain poorly and remain "cold" until late in the spring.

"GO TO SLEEP IN PEACE.
GOD IS AWAKE."
—VICTOR HUGO

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Don'ts for Spraying

Don't expect results if the work is not thoroughly done.

Don't think a week earlier or later than the date recommended is just as good. Don't overspray. A continuous even coating should be left on the fruit and foliage; any material which runs off does no good.

Don't think that lime-sulphur will control apple blotch as well as Bordeaux mixture.

Don't apply Bordeaux mixture during wet weather; it is liable to russet the fruit. Don't apply lime-sulphur and arsenate of lead during a spell of extremely hot bright weather; it is liable to cause serious burning. Don't try to get along with a machine which is worn out or too small to do good work; if the work is worth doing it is worth doing well.

Don't fail to clean the machine thoroughly after each spraying; it saves much trouble when the time comes for the next application.

Don't think that spraying alone will insure good fruit; pruning and cultivation are equally essential.

Don't think that spraying will pay unless the fruit is well marketed; spraying is only part of the battle.

Don't fail to apply to your State experiment station when in spraying troubles, says Indiana Farmer.

A Woman's Success in Growing Strawberries

In the spring of 1914 I set out 925 Superb everbearing strawberry plants. These were cultivated about once in two weeks. I kept all the blossoms picked off in 1914 and sprayed with lime-sulphur and arsenate of lead twice. I used a fertilizer composed of two parts phosphate, two parts potash, one part nitrogen. I mulched them well about December first. In May I uncovered them and put half a teaspoonful of nitrate of soda to each plant. In the spring I had a crop of 532 quarts of berries, which I sold for \$76.79. In the fall I picked 535 quarts, which sold for \$110.05. I received 20 and 25 cents per quart. I did all my own weeding, hoeing, cultivating, spraying and fertilizing, and most of the picking. In the spring of 1915 I set nearly three acres of strawberries, nearly all everbearing. I hope to set other kinds of fruit as soon as I get a place of my own.—Mrs. W. F. Baker, Pa.

Reply: I congratulate you upon your success as a strawberry grower as indicated by your letter and by the photograph which you have sent. It seems as though you had planted your strawberries at least four feet apart between the rows, but possibly wider space, which is desirable, giving the plants room to spread instead of being cramped to a narrow matted row, and leaving an obstructed path between each row. The village in the background of your photograph tells of the home market which you have for your fruit, which is far more profitable than any distant market. Fruit growers should be continually impressed with the value of a home market for the selling of any kind of fruit. There are hundreds of thousands of villages in this

country which are poorly supplied with small fruits, and often with large fruits, grown in that immediate vicinity. These numerous villages, hungry for fruits, offer great inducements for the growing of strawberries, raspberries, blackberries, currants, grapes, peaches, plums, cherries, apples, pears, and all the various hardy fruits, which are not to be grown by the thousands of bushes, but in more modest quantities.

As regards fall bearing strawberries, I must say that I have never succeeded with them, though I have tried many varieties. My impression is that if you will pick off early blossoms from almost any prolific variety you will find autumn strawberries on these plants.

Owning a Dog

The Saturday Evening Post is a champion of the dog. "The dog," it says, "has essentially a noble soul—not servile and fawning and selfish."

"To have a dog meet you at night when you come home from work and look you in the face and welcome you—to have him wake you up in the morning with his cold nose and tell you it is time to go to work—these are things no fellow ought to be without. Of course, some of us do lack them. In that case we must compromise and do the best we can; but in no case should any man in the world be without a dog."

The devotion of the average dog to his master is fine. He will follow his owner patiently and persistently, will guard the house, protect children, watch the sheep, and show his faithfulness in many different ways. But he must be carefully trained or he may turn out to be a plague to every one but his owner. A surly, cross dog may be a menace to a neighborhood and keep children in a constant state of fright. He may run out and bark at almost every passing vehicle and make himself generally disagreeable. These characteristics almost invariably come from lack of training and discipline.

Delay Planting Grain on White Grub Land

The white grubs that were so destructive during the summer of 1915 will have wintered in the ground and may be expected to come nearer the surface as large grubs in April and May. These large grubs will feed to some extent on the roots of plants and may be expected to do some early damage to this year's crop, but fortunately by the middle of June they will become dormant, change to pupae early in July, and by the first of September become beetles which remain underground until the spring of 1917.

As the mature white grubs and the pupae are tender and more easily killed by a disturbance of the soil than are the beetles, the entomologists of the U. S. Department of Agriculture advise the farmer to plow up his land as soon after July 15, 1916, as practicable. The beetles, if allowed to winter in the earth, will emerge as May beetles in May, 1917, lay their eggs and thus start another destructive brood of white grubs that if not destroyed may do as much damage in 1918 as grubs did to crops during 1915.—U. S. Bulletin.



A Woman's Success with Strawberries



On every outing—

KODAK

Let picture taking add to the delights of country life. Every day in the open, every picnic party is made merrier if you Kodak—and afterwards comes the pleasure in the pictures themselves, and picture taking is less expensive than you think.

Illustrated catalogue of Kodaks and Brownies, free at your dealer's, or by mail.

EASTMAN KODAK CO., 472 State St., ROCHESTER, N. Y.

Dairy Notes

Dairying is a continuous cash proposition.

There is constant improvement in the land where cows are kept.

If you have ten or more cows, you need a silo.

Pet both cows and calves. It makes them gentle.

Pure, fresh water should be given to calves as soon as they have learned to drink.

In feeding dairy cows give them all they will clean up at each feed but no more.

A cow needs plenty of cool, fresh, pure water. Water the cow and let her attend to the milk.

How many dairymen have learned that skim milk and buttermilk make cheap and excellent poultry feed?

To make good butter it is necessary to have clean milk and healthy cows. Milk from unhealthy cows is not a safe article of food, even though there is no visible dirt in it.

The pasture that has plenty of feed usually holds the cattle. It's the pasture that has the best feed just across the fence that makes the trouble.

95 UPWARD ON TRIAL
Fully Guaranteed

American CREAM SEPARATOR

A SOLID PROPOSITION to send now, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk making heavy or light cream. Bowl is a sanitary marvel, easily cleaned.

ABSOLUTELY ON APPROVAL
Gears thoroughly protected. Different from this picture, which illustrates our large capacity machines. Western orders filled from western points. Whether dairy is large or small write for handsome free catalog. Address: **AMERICAN SEPARATOR CO., Box 3121 Bainbridge, N. Y.**

Only \$2 Down One Year to Pay!

\$24 Buys the New Butter-Ty Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 35 quarts per hour. Made also in four larger sizes up to 51-3 shown here.

30 Days' Free Trial Send its own cost (a can in return). Postal brings five dollars, folder and direct-free factory order. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO., 2106 Marshall Blvd. CHICAGO

May I send you that free Picture Book about Eastern farmers in winterless California?

Last fall I personally escorted two trainloads of Eastern farmers on a special rail and auto trip, inspecting first hand hundreds of California's farms and orchards.

What they saw and what they said has been put into a book—mostly pictures.

You will enjoy reading this book, which is written by real farmers for farmers.

It's free—write for a copy.

The Santa Fe has no land to sell. Its mission is to help populate the districts along its lines with thrifty farmers who grow things.

That's why we want you.

That's why we help California advertise herself.

California has no winter. Cattle and chickens can forage outdoors every month. The man in overalls can work outdoors every day, in comfort. You and your family will live longer there than back East, and make more money, too.



Let me help you plan your trip. Reduced excursion fares this Spring and Summer on the Santa Fe. And ask for the book.

C. L. Seagraves, Gen. Col. Agent
A. T. & S. F. Ry.
2517 Railway Exchange, Chicago



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Inside a **FISH BRAND REFLEX SLICKER \$3**
you're always dry and happy.
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INSURE the potatoes and other vegetables, also fruit and trees from disease and pests.
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double acting high pressure pump with relief valve. Absolute satisfaction. Write today for our **FREE** descriptive literature, etc.
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Subscribers who change their residence will please notify this office, giving old and new addresses.

Entered at Rochester (N. Y.) Post Office as second class mail matter.

The Value of Trees and Shrubs Around the Home

In speaking with a party recently concerning the benefits derived from the planting of shade trees, shrubbery and vines around a house, he said: "It is surprising to me that more people do not give greater attention to this phase of home development. In my life I have built five houses and in every instance I have planted some shade trees, roses and other shrubbery because I not only admire them and love to see them grow and develop but in the selling of my property I have realized several hundred dollars more than I would have, had there been no plantings made."

Right along this line of thought a writer in the Farm and Fireside says:

"Twenty-five dollars would plant and care for at least five elm trees for a ten-year period. It is a moderate estimate to say that at the end of the second year, a building lot would be worth \$100 more for their presence. At the end of twenty-five years no man who owned the land on which they stood would take \$100 apiece for them. Plant an elm or a maple near your home and look upon it as a \$100 endowment policy, maturing in 1940, with no premiums after the first year."

"No one thinks of shade trees as a profitable crop, and yet of all vegetable growth cultivated by the hand of man, none renders a more generous return."

If five elm trees are worth \$25 at the end of ten years, for the return of shade and attractiveness only, what would be the value of five good bearing walnut trees? There is no tree more handsome or suitable for planting if only shade and attractiveness is wanted.

Plant and Tree Diseases

With the aid of the stereopticon they outlined this method of treating apple orchards to protect them from disease and insects. They told of the experiments conducted in various orchards and the successful results they achieved. The dust is sprayed just like the ordinary spraying mixture. The results of the experiments of last year were summarized in this lecture as follows:

A reduced quantity of arsenate of lead in a dust mixture may be depended upon to give results. The only possible explanation for the superior results obtained on the dusted plots lies in the better distribution effected by the dust method.

The experiments indicate that fifteen ounces of finely ground sulphur applied per tree in each application will give effective control of the scab disease and of sooty blotch. So far as can be determined, the sulphur can be applied directly in this amount, although the results with Rhode Island Greening trees in the Glidden orchard would indicate that the use of a filter allows for better distribution. This factor will probably vary with the size, shape and density of foliage of the trees to be treated. The experiments show further the fact, already indicated in previous work, that powdered sulphur applied dry does not

adhere as well as sulphur applied in liquid form as lime-sulphur solution, or as the very fine sulphur precipitated from a solution on the addition of arsenate of lead or an acid substance. In every case but one in which scab was a factor, the percentage of scab on the dusted plots was greater than on the sprayed plots, though in some cases the difference is insignificant.

There is no indication that the dust mixtures have been improved by the addition of any of the diluents used. In fact it would scarcely be possible to get better results than were obtained with some of the dust mixtures containing the pure ingredients.

How Trees Heal Their Wounds

When a bullet or any foreign body penetrates a tree not sufficiently to kill it, the wound cicatrizes almost in exactly the same way as a wound on the human body heals. If it did not, destructive microbes would enter and cause more or less decay of the tissues.

"Trees," writes Henri Coupin in La Nature, "are very well equipped for healing their wounds, and, more fortunate than we, an antiseptic dressing is almost automatically applied. As soon as the lesion has taken place the vegetable reacts to the wounded spot, its breathing at this point is quickened and at the same time protein matters are rushed to the scene."

"Many plants are provided with secreting canals filled with more or less gummy substances which are instantly poured out over the wounded surface and protect it. This is true especially of the conifers—pines, firs, etc.—of which the resin makes a swift and impermeable antiseptic dressing."

In trees that have little or no resin the wounded part turns brown. This is due to the appearance of a juice that seems to be a mixture of gums and tannin. And the cells of the trees start into activity, proliferating and filling up the cavity with new cells. If the wound be large these take the form of vegetable cicatricial tissue, which makes a plug and remains as a scar.—Springfield Republican.

Fertilizing Peach Orchards

The peach appears to be the most susceptible of all fruit trees to the influence of commercial fertilizers, says Practical Farmer. While results obtained by the various experiment stations on the use of commercial fertilizers on apple trees are contradictory, there appears to be a remarkable unanimity of results as far as the peach is concerned. Incidentally, many of the old theories regarding the proper feeding of peach trees have been overthrown.

From my personal observations I am firmly convinced that not one man in ten who grows peaches realizes the importance of thorough tillage in the peach orchard. In many cases where commercial fertilizers have been employed with good results, the same results might have been obtained, and far more cheaply, if better methods of tillage had been practiced. The peach grower should not resort to commercial

fertilizers until he has exhausted the resources of tillage and cover crops. I have in mind a large orchard in central Delaware, where the tillage has been of the best, and the care of the orchard above reproach, yet the trees began to decline in fruit production. A single test during the past season has shown that this particular orchard needs nitrogen and that a small application of nitrate of soda will mean the rejuvenation of the orchard.

The Important Place of Strawberries

The strawberry, according to Farmers' Bulletin 664, is the most valuable of the small-fruit crops grown in the United States. In 1909 the acreage was one-half and the value—nearly eighteen million dollars—was three-fourths of the total for all small fruits. This valuation is based on commercial areas and does not include the small home-garden patches, which would probably nearly double the value. The average yield of strawberries per acre for the whole country was a little less than 1,800 quarts and the farm value \$125 per acre.

Within the last few years some of the manufacturers of food products have been putting up fresh strawberries in large quantities for use at soda fountains and in the manufacture of ice cream. This industry, say the specialists of the Department of Agriculture, can be developed into one of great importance to the producer, manufacturer and consumer. Several large manufacturers buy surplus strawberries and put them up in the field, while others ship the fruit to their home factory. One of the best methods of handling the fruit is as follows: Wash the berries thoroughly in cold water, put them into tight barrels with sugar in about equal weights, load in refrigerator cars, and ship to a cold-storage plant where they can be held until needed. Sometimes the berries are crushed before being put into the barrels, but in most cases they are packed as nearly whole as possible. When ready for use they are taken from storage and manufactured into the various products. If the fruit is in good condition at the time it is placed in cold storage it can be kept for a long time without to any great extent losing its flavor and fresh color.

The keeping of strawberries under refrigeration is a comparatively new undertaking, but results that have been secured indicate that in time this can be made an important industry. It is possible to keep the fruit in such a way that its quality is practically unimpaired. In a single storage house that was visited by Mr. Thompson 6,000 barrels of crushed sugared strawberries were held at a temperature between 36 and 40 degrees. Proper storage is an important matter, for it will enable the grower to dispose of his surplus crop and at the same time will provide the consumer with a wholesome strawberry product throughout the year. When growers are banded together into a large association it often should be possible for them to manufacture strawberry by-products at the producing center under the management of the organization.

"O! Nutmeg's" Sayings By JOE CONE

A smile is a good investment.
Ef ev'rybuddy wuz right then all would be wrong.

Money talks, but in most cases it has a bad cold.
Too many cooks—but then, there can't be any too many!

A poor excuse may be better'n none, but a good one is better yit.

Hev you ever noticed that there are few people in this world too good to be true?

A pretty face seems to be the on'y argument some women hev to offer.

It frequently happens that a broad mind doesn't go with broad shoulders.

Do unto others an' they'll be sure to do unto you either way.

Time an' tide wait fur no man, but it frequently hap'ns that a feller gits ahead uv both.

Even the feller who is down an' out has at least one chance to git up ag'in.

The man who is down ez low ez he kin go don't heve to worry any more over his descent.

The very best way to git rid uv your neighbor's hens—Move out uv the neighborhood.

Sometimes the cream uv society, after it is skimmed, ain't ez good ez thet which is left.

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Abundant Crops

First, the prospective grower must make up his mind that he should not expect to plant in spring and eat fruit in June. Not a blossom should be permitted to remain on the plants the first season, but even so the strawberry gives the quickest returns of any fruit, and almost the most abundant yield per acre. Seventy-five to three hundred bushels per acre, being a usual yield.

Best Soil

The strawberry is not difficult to please, as it will grow in almost every state and in many kinds of soil. What suits it best is a rich, deep top-soil, with well drained sub-soil. If your soil is not naturally well drained it will pay to put in some system of tile drainage. Odd as it may seem, this has been found to decrease the disadvantages of land either too wet or too dry.

If early berries are desired, a sunny southern slope will give them, but otherwise a northerly exposure is best as this holds back the blossoms and diminishes the danger from late frosts. By all means avoid planting in old sod grass land, for this is badly infested by white grubs.

The ideal preparation for strawberries is to plant to clover, or some similar crop, for a year or two before starting the strawberry bed.

Preparation of Land

Not many of us, however, are willing to await so long, and it is not essential. Cultivate and fertilize faithfully and you may be sure of good results. The ground should be thoroughly broken up, fined as much as possible, made mellow and smooth and well fertilized. A chapter could be written on the subject of fertilizers, but stated briefly nothing is better than plenty of good stable manure.—American Fruit Grower.

Nuts to Crack

The fellow who depends entirely upon luck isn't to be depended upon.

Some people lead such placid lives that nothing ever seems to happen to them, not even the unexpected.

Many a woman who wishes she had been born a man would be surprised to know that her husband shares the wish.

Some people are congenial not because they like the same things, but because they hate the same people.

The quarrelsome man should bear in mind that a chip on the shoulder never won a jackpot.

The Sunday school kid who sings "I want to be an angel" is really in no special hurry about it.

It is just as well to remember that a woman's shoe laces are almost as easily broken as her heart strings.

Tact sometimes consists of knowing enough not to know too much.

The man who has most respect for his Alma Mater is the one who is graduated from the school of experience.—N. Y. Sun.

Some Helpful Automobile Hints

A small quantity of glycerine applied to the windshield with a piece of clean waste will help to keep the glass clean when driving in the rain. The water will not stick to the glass readily. If too much glycerine is used the effect will be worse.

The unequal adjustment of brakes probably does more damage to tires than actual wear. When one wheel locks and the other turns free there is a great amount of strain on the fabric of the tire on the locked wheel. By placing packs under each rear wheel one can adjust the brakes in a uniform manner.

Where gear cases or differential housings are provided with vents to permit escape of air under pressure that results from heating, care should be taken to see that the vents are kept free. Not infrequently careless painters cover the screen that generally is fitted to the opening.

Very few people know how to adjust spark plug points. Nine times out of ten the points are separated too far. Most every one carries with him an ordinary visiting card. The spark gap should equal the thickness of such a card.



Essentials

THE claims made for motor cars are varied and many. You have been told of the speed of one engine; you have read reams of oratory on the great power of another engine; you have observed the stress laid on the virtues of multi-cylinder construction; elsewhere you have been confronted with a wide sweeping array of superlatives carefully substituted for concrete and pertinent facts.

To make a thoughtful and intelligent selection, it is necessary to sift the essentials from the non-essentials, because there are a lot of things said that are not important, even if true.

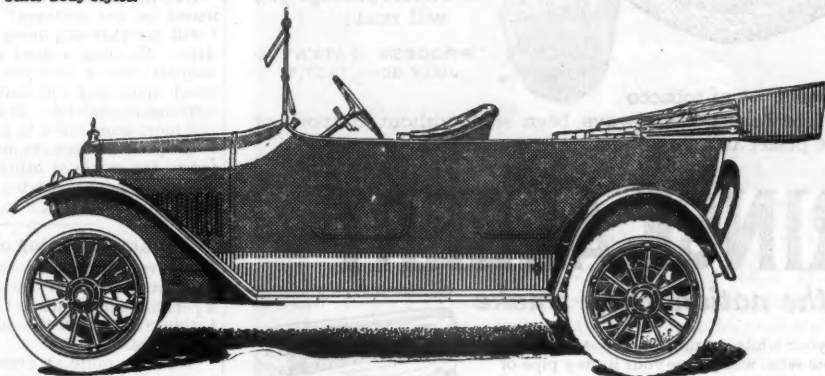
Deciding on a motor car for your particular needs is just the same as making any other kind of a decision. You must disregard the unimportant elements and weigh the remaining facts against your individual requirements.

If you are interested in a car that is inexpensive in first cost and after-cost, you will want to investigate the Maxwell. If you attach importance to sturdiness and reliability, you should know that the Maxwell is the World's Champion Endurance Car—it having traveled 22,000 miles last January without repairs, readjustments or without a single motor stop.

If you are concerned with gasoline and tire mileage, you will recall that on this 22,000-mile endurance run the Maxwell stock touring car averaged almost 22 miles to the gallon and over 9,000 miles per tire.

In the end you must be the judge, but just remember that there must be a definite reason for a production approaching 80,000 Maxwell cars this year, and for 40,000 having been sold last year in American farming districts alone.

Brief Specifications—Four cylinder motor; cone clutch running in oil; unit transmission (3 speeds) bolted to engine, 5/8 floating rear axle; left-hand steering, center control; 56" tread, 103" wheelbase; 30 x 3 1/2" tires; weight 1,960 pounds. **Equipment**—Electric head-lights (with dimmer) and tail-light; storage battery; electric horn; one-man mohair top with envelope and quick-adjustable storm curtains; clear vision, double-ventilating windshield; speedometer; spare tire carrier; demountable rims; pump, jack, wrenches and tools. **Service**—16 complete service stations, 54 district branches, over 2,500 dealers and agents—so arranged and organized that service can be secured anywhere within 12 hours. **Prices**—2-Passenger Roadster, \$635; 5-Passenger Touring Car, \$655. Three other body styles.



Maxwell

MOTOR COMPANY, DETROIT, MICHIGAN

Write to Dept. 7 for our catalog giving detailed specifications and our booklet
"22,000 Miles Without Stopping."

Notes from Green's Fruit Farm

By E. H. Burson

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\$845 DOLLAR A KNOT
Profits Saved
on the Lumber, Millwork, Hardware and Labor. All material cut-to-fit. Complete homes shipped anywhere, fast freight. Send stamps for big catalog D181
ALADDIN Home Co. By City, Mich.
HOMES
The Yale

More sold the past season than any other cultivator upon the market.
The only garden cultivator upon the market, that you can set any depth you wish, so that it stirs the soil just that depth all down the row. Goes between the rows or astride the row. Runs 30 per cent. easier than any other cultivator.
Write for descriptive catalog and testimonials and Special price.
SCHAIBLE MFG. CO.
Dept. A
Elyria, Ohio

Led Astray. A friend the other day wrote that her Shropshire Damson trees planted some years ago were not bearing the right kind of fruit. She said, to use her words, that the fruit was small, puckery, and blue, whereas it should have been large, rich, and amber color. Then to bear out her statement she referred me to a certain catalogue, and sure enough the description of this well known blue Damson is given as large and amber color. No wonder that we inquire sometimes "where we are at." The Shropshire is the best, known of all Damsons and is purplish black in color, commonly recognized as blue.

The Carrie Gooseberry. Recently a reader of the Fruit Grower asked for information about this gooseberry. The Carrie gooseberry has been grown considerably in some parts of the west. I do not know its origin. The New Jersey Horticultural Society report it as follows:

"The Carrie Gooseberry I think, has much value for New Jersey. It belongs to the red class, such as the Houghton, Josselyn, etc., but is distinct in character from any other I know. It is of strong spreading

habit, the berries not so large as those of the popular Red Jacket, but the yield is more and the quality is of the highest."

The New Jersey Agricultural Station reports the fruit as "smaller than Downing, of considerable reddish color." We have not fruited it on Green's Fruit Farm.

Lime for the Land. Over roads of snow from two to six feet deep today, Mar. 11, the teams are hauling ground limestone for the land. This comes in 100 lbs. paper sacks and is handy to store until we are ready to apply it. From 1000 to 2000 lbs. per acre will be scattered or rather sown with a lime drill and worked into the soil where it appears to need lime. On the alfalfa fields that have given us two or three cuttings a dressing will be put on top and then the fields gone over with the disc harrow. This will be done on the first day possible after spring is assured and the land is workable.

Abolishing Farm Fences

Business men, manufacturers, railroad men, department stores, mines and other business enterprises are compelled to economize in order to meet competition and have left in the treasury something to divide among the stockholders or owners. Farmers have found it necessary to economize and to cut short expenses, but many of them have overlooked the saving that might be made in doing away entirely with nearly all the fences on their farms.

It is possible that 10 or 15 million dollars might be saved in this big country if farm fences were abolished.

I estimate that on the average, considering the first expense of putting up a farm fence, that these fences on a farm of 100 acres cannot be built and maintained on the average at less than \$50.00 per year. This is a serious outgo for something that could be avoided.

Farm fences are objectionable. They are unsightly and mar the beauty of the landscape. They induce a collection of snow banks and encourage growth of weeds, briars and forest growth not easily eradicated, which feed on the adjacent soil both sides of the fence line.

In many parts of Europe there are no farm fences. This preserves for cultivation large acreage, taking the whole country over, that is made worse than useless by fences and the growth of wild stuff on either side of them, such as occurs in this country.

At Green's Fruit Farm we are continually buying more land. On these farms we always find fences, but we spend no money in repairing them. In the course of a few years the fence material is piled up and fences on the place are practically done away with.

But the reader will say: "We must have fences for our pastures." In reply to this I will say that pasturing the land is out of date. To turn a herd of cattle or other animals into a field and permit them to tread upon and soil more food than they consume is wasteful. It would be far better and more economical to allow the grass crop to grow on the pasture and then be cut and fed to the cattle or other live stock, which would be housed during the heated term away from annoying flies.

Summer Pruning of Fruit Trees

I have not favored summer pruning of fruit trees or grape vines, but since having a peculiar experience at Green's Fruit Farm I think better of the summer pruning of fruit trees.

We have quite an orchard of Anjou pear trees, which have a tendency to bear every other year and rather sparingly. In July several years ago we needed some scions from these Anjou pear trees, therefore we sent a man to cut off the new growth, (the ends of branches) of a portion of these Anjou pear trees.

To our surprise we found the next year and succeeding years that these pear trees, which had been summer pruned by having the new wood of that year removed, bearing fruit abundantly, while those trees adjoining, which had not been summer pruned, were bearing little or no fruit.

The above experience led us to cut back severely the new growth of apple trees, and the result was similar to that of the pear trees. I might add that the most succe-

ful pear grower of western New York is in the habit of cutting off nearly all of the wood of the past season's growth, that is the ends of all the season's shoots, but he does this cutting in winter or spring before the leaves appear.

Four Apple Trees Produce Forty Barrels of Apples

Supt. Burson of Green's Fruit Farm reports one of the best crops of apples ever gathered from this orchard. He says that four trees of Blenheim Orange, sometimes known as Blenheim Pippin or Lord Nelson, an English variety, produced this year forty barrels of first class fruit. No account was taken of the second class apples or culls from these four trees. Consider for a moment what a bulk of fruit this is to be taken from four trees. It does not seem to the inexperienced that it is possible for one tree to produce ten barrels, that is thirty bushels of first class apples, and these trees are not old trees nor are they fully grown. They were planted by C. A. Green in 1875. Considering this marvelous yield, it must be conceded that apples on the trees before they are picked are the most easily and most cheaply grown of any product of the farm. The cost of apples then is mainly not in the fertility applied, nor in the pruning or spraying, or cultivation, but in the picking, gathering, packing, barreling or boxing. Consider a barrel of apples that we have sold this year for \$3.00 to \$3.50. What should be charged in the way of expense for the production of this barrel of apples? At a rough estimate, simply a guess, I would say that the land on which the apples grew, its cultivation, the spraying, pruning and any other attention the tree may have received, will amount to about one-tenth of the cost of these apples (say 30 cents per bbl.) as they are in the hands of the consumer who has bought them. Then I will consider the profit of the grower, cost of picking, of grading and barreling, and the cost of the barrel and the cost of delivering and selling to the man who buys them as nine-tenths of the \$3.00 or the price secured. If the readers of Green's Fruit Grower differ from me in this estimate let us hear from you. C. A. Green has gathered twelve barrels of Baldwin apples from one tree.

Appreciation from Oklahoma

Green's Fruit Grower has just received an encouraging letter from Messrs. Snider and McMullin of Oklahoma, stating that they often find in Green's Fruit Grower one article which is worth a dollar owing to the reasonable instructions.

The writers are engaged in the culture of strawberries, blackberries, bees and apples, in addition to general farming. They read every page with interest and retain every issue. They take pleasure in recommending Green's Fruit Grower to their friends and neighbors.



Apple growers are learning to place in every barrel of apples grown by them a card giving the name of the grower and his postoffice address. Growers of peaches and of many of the small fruits are adopting the same method of advertising their fruits. This is a good idea.

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—why, it can't bite your tongue;

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That means to you a lot of tobacco enjoyment. Prince Albert has always been sold without coupons or premiums. We prefer to give quality! And read this:

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Not in Favor of Rural Police for State

Rural police for New York state is a new suggestion of influential men, and I am asked to favor it, but cannot do so in an unqualified manner. The cost of government in this country, both local, state and national, is becoming more and more expensive every year, causing an increase in taxes. I do not favor methods adding great expense without careful consideration.

The constable and justice of the peace are the present officials to look after the welfare of the rural sections. While those officials might be required to do more extended work or to have assistants, I do not see my way clear to approve of mounted police to parade about our farm homes and villages. The violation of game laws is spoken of as one reason why we should have rural police, but the game wardens are expected to look after this matter.

If you will take a ride with me of fifty miles through a beautiful and partially wooded hill and dale section of the Empire State, you will probably see nothing that would require the attention of a police officer. Occasionally at midnight a gang of hoboes breaks into some rural postoffice and carries off stamps, but the rural police could not be of much assistance in preventing that crime or apprehending the criminals. I am told that the state of Pennsylvania has rural police, but I am not informed as to the value of their services.

—C. A. Green.

Fruit Trees for Shade

Written for Green's Fruit Grower By J. S. Underwood, Johnson Co., Ill.

Last summer, while traveling a considerable distance from home, I noticed a number of yards in which the dwelling house is surrounded by fruit trees. An attempt has been made to make them do double duty, that is, to bear fruit and furnish shade. In a few instances there are no shade trees in the yard so that whatever shade is produced comes from the fruit trees. This condition seems to exist almost equally in the city and in the rural districts, although there are very few instances where it is necessary, especially in the country.

A shade tree to be satisfactory must be tall, thick and cover a large space. Unless it is pruned high the grass will not grow well under it. The most satisfactory fruit tree is almost opposite this in general characteristics. It must be headed low in order to have the fruit within reach at harvest time. If it grows tall and thick there will be very little fruit and it will be of

poor quality. An open top or crown is necessary for the production of good fruit, and with this condition the shade is not good.

Another objection to the use of the common fruit trees for shade is the tendency they have to shed a large part of the leaves after the fruit has become ripe. With the early variety of fruits this causes a litter and lessens the shade value.

Of the fruit trees used for shade the apple is the most satisfactory. It reaches a larger size than any other and shuts out the sun best. When allowed to grow as it pleases in this fashion it produces a very limited number of apples of poor quality. The peach is perhaps the least desirable as it branches sparingly and lives only a few years. The plums and some cherries are not wanted, because of the sprouts that spring up around them.

As a general thing it is much better to use native forest trees of good quality, such as the maple (the hard slow-growing species,) elm, tulip, ash, etc. The fruit trees can be grown in the backyard or poultry yard, and orchard, where fruit is the first and only consideration. If every available foot of ground must be used, a certain amount of shade and comfort can be sacrificed for what may be of more value. Some good fruit and little shade is better than much shade and no fruit if a good supply of both cannot be obtained.

Currant Problems



Green's Fruit Grower: I have just read the article on "The Aphid" in Green's Fruit Grower, and I have something of the kind, though green, and at maturity becomes white, on my currants. I am enclosing a currant leaf, shriveled and purplish in color, on the under side of which are the green bugs like a rose bug in all stages and sizes. Please tell me what

this is and what to do with it. How can I increase the number of my currant bushes? By cuts buried until they take root, or by burying the ends of the lower shoots of the bush and allowing them to form roots before detaching them from the parent stock? Or is there any other way of doing it?—L. M. Herrington, Pa.

Reply: I do not know of any insect such as you speak of affecting currants in this locality. Please write your experiment station, sending them samples.

If you will bank up your currant bushes 12 or 18 inches high around all the branches, roots will be thrown out. These rooted branches can be cut off in September or October and planted like cuttings and will be almost certain to grow. The banking up should be done in June or earlier. Propagation by cuttings is more difficult. The cuttings should be 12 inches long and should be buried to the tip in loose, sandy earth, the planting being done in September.

Tent Caterpillars

Green's Fruit Grower: Ellwood Carpenter, N. Y. asks for information for destroying tent caterpillars. I wish to give a simple remedy which will kill or eradicate this pest from the tree.

Lay some object, a piece of sod seems better, in the fork of the tree below the nest and in the path of the caterpillar. In a day or two the caterpillars will have died in the nest, or will have left the tree. It seems that when the caterpillar finds the obstruction in its path it will forsake the tree, or else die in the nest refusing to pass over the obstruction.

I tried this experiment only a few days ago and found that it worked satisfactorily. This remedy seems so simple, few people will give it a trial but you will find that the experience is well worth trying.—D. M. Dorsey, West Va.

At the Age of Thirteen

At the early age of thirteen, George Washington drew up a set of original rules for his future conduct, which he tried to live up to the rest of his life. He called them "Rules of Civility and Decent Behavior in Company." There were fifty-four in all. Here are a few of them to show you the earnestness and thought of a boy of only 13 years of age:

"Speak not when others speak, sit not when others stand, and walk not when others stop."

"Turn not your back to others, especially in speaking; jog not the table or desk on which another reads or writes; lean not on any one."

Hints on the Best Method to Get Results When Car or Wagon Needs Washing

On the subject of cleaning and looking after motor cars, he says he wants to add the following to the instructions on washing which were given by the other local dealer:

"The car should be regularly and systematically cleaned and renovated. The varnish on the car is always benefited by an occasional washing with clear, pure water. The car, even when not in active use, should be so cleaned at stated intervals. In summer, preferably the water should be cool."

"On a new car occasional washing with cold water serves to harden the varnish and increase its brilliancy. During the winter, if the washing is performed in a warm place, the use of cold water for an occasional washing may be continued, but cold water applied in a cold place at a frigid season of the year is injurious to the varnish. When the car is being used daily, or following each period of road service, the varnish should be washed, top, if any, cleaned, and the upholstery and interior furnishings of the car renovated."

"Never wash the car in the bright sunlight. The sun dries the water up too rapidly, and causes streaks in the finish. Always use absolutely clean water for the washing. Change the water often enough to keep it clean."

"Windshield glass, and all other glass attachments should be cleaned with one-third denatured alcohol and two-thirds water. Dip a soft cloth, or, better still, a small fleece wool sponge, in the water-alcohol mixture, and then into some fine whiting or pumice-stone flour and apply to the surface. Let this application dry on the glass, then wipe clean with soft woolen cloths, and complete the work by bringing the glass to a high polish by rubbing with tissue paper."



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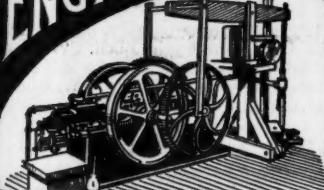
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Profits From an Acre of Berries

Twelve years ago a Missouri lad went up to Columbia and took the short course in agriculture. He had no money, no land, no resources of any kind when he came back to Neosho. He did have a belief in himself and in the possibilities of the land as a fruit soil. He bought 80 acres of land about that time and now has it paid for. Strawberries did most of it, but he is going further now. He has grapes, peaches, apples, raspberries and other small fruits growing on the land.

The 80-acre farm was bought for \$1,500. This price gives something of an idea of land prices in the strawberry district a few years ago. This year Adams had 5½ acres of berries, all he cares to attempt to handle. In 1913 he got \$2,300 for the berry crop on the same acreage and in 1914 his crop sold for \$2,400, says Farm Progress. These figures are net. Adams estimates that there is a total expense of about \$75 an acre in growing, picking and marketing the crop. Adams does not rely entirely upon berries. In this his example is being followed by scores of other growers in the whole district. He grows melons, peaches, grapes, blackberries and a little corn. By following this plan he is enabled to make his living expenses from various fruits, and his strawberry crop is just about so much clear money.

F. J. Bigham, an undertaker by profession, but a berry and fruit grower from choice, has a fruit farm of 50 acres that is

an example of what may be done with time, patience and more than a little money. His fruit farm east of Neosho is laid out with great care. He grows apples, grapes, plums, peaches and—always strawberries. His strawberry fields are laid out among the orchard plots, enabling him to have full use of the ground while his fruit trees are getting their growth. He has spent time, energy and money in making what comes very nearly being the ideal fruit farm.

The berry grower who fails to get a profit of \$100 an acre from his fields is pretty certain to be a grouchy and disappointed individual. No two growers figure their expenses alike, but a general average cost of \$50 an acre to bring the berries up to market conditions has been made. It will cost about 60 cents to pick and crate them and the acre yield will range between 75 and 200 crates. The cost has been figured by a number of growers as averaging 84 cents a crate; one association secretary figures that in good years this may be reduced to 60 cents.

When Old Age Begins

An eminent Canadian financier went to Europe to consult a noted specialist in regard to his health.

"You are perfectly sound," said the specialist. "There is no reason why you should not live to be a hundred,—if only you don't stop working. Old age begins when the mind and the heart stop growing."

How the Apple Seed Grew and What It Led to

Written for Green's Fruit Grower by
ADELIA WESTCOTT MOTES

It is our duty to tell of the good things which come into our lives, sometimes in most unexpected ways, to benefit and bless the world by sharing with it the valuable lessons we learn. As we strive to make the most of each day we shall in time be surprised at the results attained and the progress made. And oftentimes momentous results come from causes which seem trivial at the time.

One day my husband brought home some very fine, large apples, and in the late afternoon a lady friend, my husband and I sat under the trees on the front lawn, bringing with us the fruit basket. We all remarked about the delicious flavor of the apples, and while we were enjoying them I carelessly threw the seeds which were dropping in my lap onto the ground.

The autumn and winter passed, and spring came again. Soon it was time to mow the lawn. As we walked in the front yard one day one of my husband's friends drove by. He stopped and we talked awhile. Then as my husband began to mow the grass he saw a little tree growing on a bare place among the grass, and said, "This looks like an apple tree." His friend got out of the buggy, came and examined the tree closely and replied, "Yes, that is an apple tree." My husband then asked

whether he should cut it down or let it grow, saying that we might never live to eat an apple from it. I said, "Let it grow. If we don't enjoy the fruit some one else will." So the little tree was allowed to grow. And how fast it did grow!

From this experience the idea came to us, "Why not buy land and set out a lot of fruit trees of different kinds?" We decided to do this, and without delay purchased a piece of land on the outskirts of the city, not far from our suburban home. The land being near our residence, it was very convenient for us to care for the orchard. There were some large pine trees on the land, which we cut down and had them sawed into lumber, though at the time we didn't know just what we should do with this lumber.

In three short years our little apple tree in the front yard began to bloom, and the next year it bore some fine apples. The following spring my husband, son, daughter and myself had our pictures taken under this tree while it was blooming, which made a beautiful group, and the photographs are now prized most highly by all of us.

About this time also our orchard began to bear, having been set out with two-year-old trees from a good nursery. The orchard was a beautiful sight in the spring when the trees were in bloom, and also in the autumn when the apples and other fruit began to ripen. We also raised a great many vegetables. In the meantime the city had grown up around our home and orchard, and the land had become very valuable.

We now found that in order to get good prices for our fruit and vegetables we needed a store in which to sell them ourselves at retail, so we bought a desirable lot on a busy street not far from our orchard, and also near our home, and used the lumber from those pine trees to put up a good store building. We now sold a great deal of fruit and vegetables at a good price, and also sold pure home made preserves, marmalade, jellies, jams and grape juice.

We still had more than half of the lumber left after building the store, and as this portion of the city was growing rapidly we decided to build a quiet suburban hotel in one corner of our orchard, sell our residence and conduct the hotel. In good time the hotel was finished, and began to fill up at once with desirable, well-to-do boarders and guests, and in a short time it became the most popular family residence hotel in the city, nestling there in one corner of the beautiful orchard, with a wide, grassy lawn all around it, and yet right in the heart of one of the best residence portions of a great city, with good car service down town and to all the city's business activities.

We now found ourselves realizing a life of ease and wealth, with plenty of leisure for self improvement and rational enjoyment. Truly, "Great oaks from little acorns grow." All of this prosperity came unexpectedly, as a result of my carelessly dropping that tiny apple seed on a bare, fertile spot on our front lawn.

"It's better to agree wif a man as much as you kin," said Uncle Eben. "It makes him feel good-natured an' you don't have to listen to so much talk."—Washington "Star."

Then the Veil of Mist is Lifted

Written for Green's Fruit Grower by
WALTER S. CHANSLER, Ind.

When the fires of war are kindled,
And the throne of reason dwindles,
When the blood of many nations marks
The wrath throughout the land;
When innocent people suffer,
And the hearts of men grow rougher,
Then the veil of mist is lifted, and we see
The soul of man.

—2—
When the wrongs are never righted,
And the force of truth is blighted,
When the righteous path of duty is hard
to understand;
When the laws of every nation,
Fail the test of reprobation,
Then the veil of mist is lifted, and we see
The soul of man.

—3—
When heart-strings are snapped asunder,
And the world stands in dum wonder,
And evil rules the fates with a master
hand;
Then the helpless are forsaken,
And their faith in man is shaken,
Then the veil of mist is lifted, and we see
The soul of man.

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Spraying Apple Trees Paid Well

By co-operating with twenty-five orchardists the Missouri College of Agriculture was able to spray each orchard four times a year at a cost of \$22.26 per acre. The fruit on the unsprayed trees sold for \$18.05 per acre as compared with \$187.19 or more than ten times as much after spraying. This makes the average net profit of \$136.78 which repays the outlay for spraying and five times as much more in addition. Few farm investments will pay as good returns as this and those who have orchards of any size will be interested in learning the methods which the college advises as a result of its years of experience and experiment.

FIRST SPRAYING—Just after the first clusters of leaves have opened in spring, but before the blossoms themselves have unfolded, use either Bordeaux mixture (3 pounds copper sulphate, 3 pounds lime, 50 gallons water) or commercial lime sulphur, (1½ gallons to 48½ gallons of water.) This controls the apple scab disease, which causes most of the specked and knotty apples found in many orchards.

SECOND SPRAYING—Immediately after the majority of the blossoms have fallen use 1½ gallons of commercial lime-sulphur in 48½ gallons of water. Before filling the barrel with water, add 2 pounds of arsenate of lead paste to poison the insects. Stir the paste thoroughly in a bucket of water before pouring into the sprayer, as otherwise it will sink to the bottom of the barrel in a lump. Prevent apple scab and the two worst insects of the apple—codling moth and curculio.

THIRD SPRAYING—Three weeks after the blossoms fall, use either Bordeaux mixture or lime sulphur as directed under first application. Also add 2 pounds of arsenate of lead paste. (For the purpose of poisoning the curculio and codling moth insects and preventing apple scab, apple blotch, black rot, and other diseases.)

Under usual conditions, in the latitude of northern Missouri, three sprayings are sufficient. In that of southern Missouri where there is danger of bitter rot, two or three additional sprayings will be necessary. The fourth should be given six weeks after the blossoms fall using Bordeaux mixture 4-4-50 or 5-5-50, and if there are signs of a late brood of codling moth add 2 pounds of arsenate of lead. Other sprayings may be given at intervals of two weeks, using only Bordeaux mixture at the rate of 5-5-50. Lime sulphur is not reliable for preventing bitter rot.

SPRAYING OUTFITS—A barrel sprayer will spray about ten acres of orchard and costs, complete, from \$12 to \$33. A bucket sprayer costs \$3.50 to \$8. The small hand compressed air and knapsack outfits are used for spraying potatoes, nursery trees, berries and vineyards. They cost from \$5 to \$15. All sprayers should have brass working parts which are not injured by Bordeaux mixture.

Growing and Marketing Apples in Virginia

How apples are grown and marketed in Virginia, was the topic of a talk by S. L. Lupton of Winchester, Va. Mr. Lupton planted the first commercial apple orchard in the lower Shenandoah Valley, which now produces more than 3,000,000 bushels annually, of a quality, Mr. Lupton maintains, on a par with the best fruit of Western New York, and better packed than the York state product.

"We need not fear an over-production of apples," said Mr. Lupton, "as long as the average fruit growers co-operate with San Jose scale and other pests in killing apple trees." He emphasized the folly of planting poor trees. Trees with bad root systems should not be planted.

In Virginia apple trees are usually planted in the fall. The following spring the ground is planted to corn. Corn is followed by two crops of wheat in the young orchard. After that a cover crop or weeds take possession of the land in midsummer after thorough cultivation.

The sod mulch system has killed many apple trees in the Shenandoah Valley. The Grant Hitchings method of apple culture, imperfectly followed, in combination with the Stringfellow method of setting trees, has played havoc with young orchards.

Little trimming is done until the tree comes into bearing. The Virginia growers have the belief that too much pruning has a tendency to set back the bearing age.

My Back Yard Farm

Situated 6½ miles out of Boston my farm consists of my back yard 60 x 60 feet, the land so poor and dry, being a south westerly slope with a drop of 15 feet, it would not even raise beans or tomatoes. The soil is sandy loam with clay bottom, filled with rocks. As I could do nothing else with it when I built my house a dozen years ago I planted 1 Baldwin apple tree, 1 Bartlett Pear, 1 Sheldon, 2 Seckel, 2 Plum and one grape vine. The trees have had the best of care in pruning, spraying, fertilizing, etc. In 1913 I picked 7 barrels fancy Baldwins, 6 bushels pears, 2 bushels plums; in 1914 I had 9 barrels Baldwins and about the same pears and plums as the previous year. The apples while good were not so fancy as the previous year the tree being overloaded and should have been thinned out. I write the above to show what may be done with the thousands of back yards around Boston now of no use to the owners. Buy fruit trees and take care of them. You cannot do it in the old farm style. Set the trees and let them care for themselves. Eternal vigilance is the price of liberty.—A. L. Baker, Mass.



Photograph of a fig tree, bearing two dozen figs, grown in the garden of L. A. Inik in Kansas. He gives it protection during winter. I have seen figs growing on the eastern shore of Chesapeake Bay, Va. The fig is a tender tree and will not endure the winters of western New York. It is an interesting and delicious fruit.

Making Home Attractive

Beautifying the home place is one of the pleasures and duties of every home lover. Homes that do not reflect in some way the better natures of their owners are not what they should be, says Farmers' Guide. Home is the place where we spend the most important part of our lives. Homes that are not comforting to the tired home-maker have lost all their charm and usefulness. Homes should be made beautiful to the eyes as well as comforting to the body and nerves. If you will look about you the homes that are the best in appearance are homes that harbor gentle people. Homes that are allowed to run to ruin are owned by people who are careless and often shiftless in their personal habits.

It is not hard to beautify your home. It does not require a lot of money or valuable labor. I remember seeing a little dooryard in St. Louis once in which a few seeds had been planted. Possibly the place was not more than 10 feet square but there was such an abundance of flowers and grass on that little dooryard that it gladdened thousands of passersby every day. That little place was tended by a crippled girl. And it reflected more than anything else the spirit of generosity and gentleness which was her predominating characteristic. Money alone will never make a home beautiful.

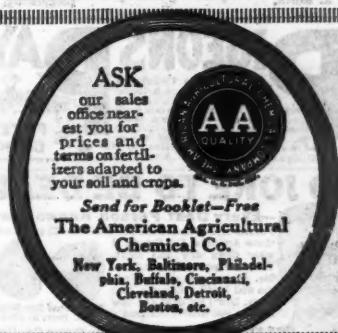
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A farmer of our acquaintance sent his hired man to the state university to attend the farmers' short course. He says it was a good investment for the man has taken a greater interest in his work ever since

and he has become a more efficient help about the place. He now reads books, bulletins and papers on farming and spends his spare time in making a better farmer of himself instead of loafing around town or wishing he had a job in some factory, says Farmers' Guide.

This is an excellent way of helping the hired man for in the end it means helping yourself, provided of course you have the right kind of a hired man to help in the first place. There is many a young fellow working on the farm who is just aching for encouragement and the opportunity to improve himself for his work. Help the hired man, if he is worth it. Let him attend the institutes and farmers' meetings and if possible give him a week off to attend the farmers' short course. You may need him during the time he is gone but when he comes back he will repay you in more efficient service.

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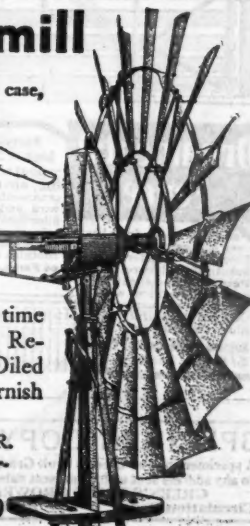
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Poultry Dept.

Get Ready Now for Next Winter's Eggs

The writer naturally takes it for granted that the readers of Green's Fruit Grower do, for the most part, keep their poultry in connection with their fruit growing. Such being the case, their poultry have the run of the farm except at bearing seasons when it is necessary to close the gates to keep them from some of the small varieties of fruit. Under ordinary farm conditions almost any kind of a hen will, at least, lay a few eggs when the weather is warm and they have their liberty, as will a neglected strawberry bed produce some berries. But eggs only at what is called

their natural season do not mean big poultry profits. If growers of fruit had not assisted nature, many of our favorite varieties would not have been thought of, much less brought to such a high standard of perfection.

If I should ask, which is the best variety of apples? the answer would come, What are your requirements? Of the endless varieties of pure bred poultry, there is no best variety, your requirements must be taken into consideration. Some of our best fruits come from the mixing of varieties, many successful poultry raisers claim best results from the mixing of two or more of these pure bred varieties.

May I ask why the colt born late in the fall will soon take on a heavier and longer coat than the colt born in the spring, or why do late fall hatched chicks feather so much younger than spring hatched chicks—the answer would be, a provision of nature.

What about the ever-bearing strawberry? Just another improvement on nature. It is natural for all fowls to raise young in the spring time, and to get eggs out of their natural season, poultry raisers will have to help nature. Look at one neighbor who is now getting plenty of winter eggs, another neighbor who is not. On making a little investigation we find that the neighbor who is getting plenty of eggs hatched these pullets early, in fact before the other neighbor had given hatching any thought. The early lot of pullets had reached maturity and began laying before cold weather, while the other lot of pullets had not sufficiently matured so as to begin laying before the weather got cold, and it is seldom they start after the weather gets cold.

My experience has proven even late

hatched chicks profitable to raise for the market, but we must have the early ones also to get the winter eggs. Some may ask, how am I to get early hatched chicks if the hens refuse to set early. A good incubator and brooder will solve the setting hen problem.

Here comes another question, What incubator and brooder shall I select? Under the surroundings which fruit growers raise their poultry an extremely small or an extremely large incubator or brooder would not be considered. The popular sizes are 100, 150 and 200 egg capacity. Since it is the early hatched chick we are after, we



Ducks are interesting pets, very intelligent, remarkably hungry and ravenous for food. The flesh of the duck is considered a delicious morsel, being of gamey flavor. It is rich food and should be indulged in moderately.

must have an incubator so constructed that it will bring off big hatches in the winter months as well as the late spring and summer months. The construction of the incubator case and the heating system are two features that determine largely the worth of an incubator as an early hatcher. A good regulator will look after the heat but should be free from complications. A frail complicated regulator means extra work, worry and perhaps disappointment in the hatch. Incubator manufacturers owe prospective customers free and honest descriptions of their machines and when they fail to answer your questions or try to mislead you with testimonials without dates, names or addresses, they can be looked upon with suspicion. Some may say testimonials do not count. I claim that they do. For the most part the experienced are always glad to help the inexperienced, the ones who are making a success with their incubators will tell you so and no doubt, will be glad to give suggestions that had helped them.

It is none too early now to begin to prepare for your next winter's layers. By using eggs from hens that are inclined to lay in the winter, you can, in time, build up a flock with the winter inclination to lay, and have gradually gotten away from this strictly summer inclination. On most farms there are always plenty of rough boards that can be used in building brood houses for the chicks, and in many cases hot bed sash that are stored during the winter can be made to pay big dividends by furnishing sunlight for the poultry. Big hatches with the incubator mean that you have followed the laws of nature closely, your chicks are nice and strong and there is nothing more natural for them than to

grow. Sometimes I think all of us are too apt to pattern from the unsuccessful. Why not, in this case, look around and pattern from successful poultry raisers. What about the hens that are now making the high records at the many laying contests? Eggs have been used from the persistent layers and generation after generation have increased this inclination. Get your pullets out early, have them matured and laying by fall, then with a little extra care in feeding and housing, there is no reason why you will not get plenty of winter eggs.

Poultry Notes

Wheat is the best egg food.

It is better to darken the place selected for the nests.

One of the best ways of feeding milk to poultry is to soak stale bread in it.

The baby chicks drink a large quantity of water, and it should be kept available at all times.

The duck is an enormous eater and requires more bulky food than chickens.

Don't ever give sloppy mash foods to young chicks; they should be just damp enough to adhere without being a mush.

Do not overfeed the young chicks. More chicks die from overfeeding than probably from all other causes combined.

Proper feeding methods not only produce more eggs but the eggs have a firmer shell and the quality is better.

In a locality where there is plenty of gravel, no crushed or ground rock is required as the fowls will help themselves.

Bone meal does not take the place of green cut bone, though it is a good thing to have in a hopper so the chicks can get it if they want it.

A mixture of two parts lard and one part kerosene oil will remove the scabby formation on the legs.

Do not simply throw the water out of the drinking vessels, and put in fresh water, but wash the vessels thoroughly every time you change the water.

Watch the little chicks for head-lice. These lice kill more chicks every year than die from any other cause. To prevent this, when taking the chicks from the nest where they were hatched, rub a little sweet-oil on the top of the head and around the bill.

Small chicks should be fed five times a day if they depend on you for all their food. Throw the food in the litter. After they are six weeks old, if they are getting food on the range, they need be fed only three times a day.

Strawberries and Chickens

But someone asks, "Will not chickens injure a strawberry bed?" says Weekly Canadian Fruit Grower. If a fence of poultry netting three or four feet high is placed temporarily around the strawberry bed to keep the chickens out for a part of the season, they may be allowed to roam there at pleasure during the rest of the year, and not only do not injure the plants, but help their growth by catching many harmful bugs and worms. Grown fowls should not be allowed in the patch until the berries are picked, but young chicks may have free access to it excepting for perhaps three weeks while the berries are ripening.

Summer Care in the Poultry Yards

Those of us who carried a large flock of growing chickens through last summer know something of the possible effects of summer heat. Heat, like cold, has a deadly effect upon developing poultry. The temperature that ranges above 100 degrees in the shade borders the injurious point with the growing flock. There needs be little argument on the necessity of shade for the young stock for every chicken raiser knows how a fowl can suffer and be stunted or checked in its development during the warm days of July or August. Perhaps nothing should have more thought in the summer care of a flock than the matter



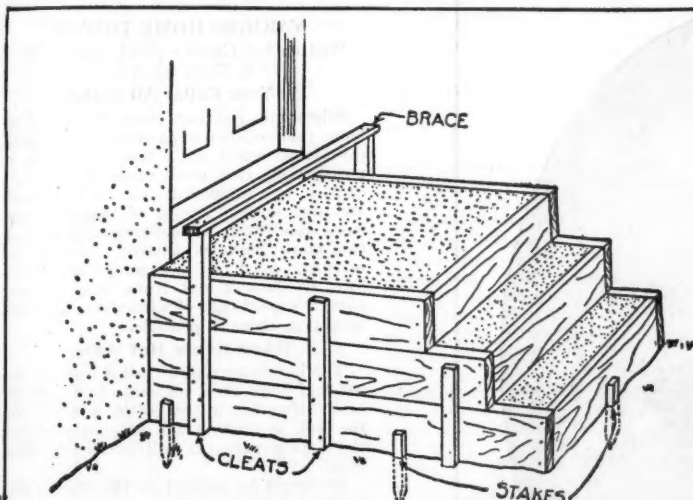
A Thrifty Poultry Yard

of sufficient shade. With the problem of shade goes the problem of sanitation which includes housing, ventilation, water supply and food in general. The healthful chick is the one which lives in health-giving conditions. The summer's heat must not sap its vitality, the elements including moisture and the extremes of temperature must not be allowed to work their deadening effects.

Chickens With Sore Eyes

Green's Fruit Grower: A flock of about a dozen small chickens were caught out in a shower and presumably took cold. When feeding time came they acted strangely, making pecks at the ground but not picking up any food. Upon examination it was found that their eyelids were stuck fast and they could not see. The owner carefully pulled upon the eyes of every chick and they seemed all right, but the operation had to be repeated at each feeding time for three days, after which there was no more trouble. Can you tell me the cause of the trouble and its proper treatment?—L. E. M., N. Y.

Reply: The wetting undoubtedly caused a mild form of roup, making the chickens' eyes run as it does those of mature birds. On account of the chickens being small, they probably could not keep the mucus rubbed off on their down sufficiently to prevent it from sticking their eyes shut. In a case of this kind we suggest moistening the eyes with a light solution of boric acid and giving some good roup remedy in the drinking water.



SIMPLE CONCRETE STEP CONSTRUCTION

Steps are not only subject to hard usage, but when constructed of wood with the lower part in contact with the ground and subject to alternate wetting and drying, decay is very rapid, making them unsafe and dangerous. Steps at the rear or kitchen entrance of the house encounter especially hard usage, but it is a very easy matter to have them durable and safe by constructing them of concrete. A simple method of doing this is shown in the accompanying drawing. The three forms consist merely of that many boxes open at top and bottom and also at the end adjoining the door-sill.

Remember This

Many a woman housed by a cold amuses herself and attends to necessary business over the telephone. But when all the rest of the family come down with like colds, she wonders how they caught it, because she has "not kissed anybody." Nobody thinks of the mouthpiece of the telephone, and yet where is there a more convenient harbor than that for germs breathed into it from throat and nose? The average household does not even think of dusting out the transmitter and it is cleaned only upon the occasional visits of the repair man from the telephone company. As a matter of fact, it should be washed out frequently with a disinfectant. Even the earpiece is benefited by an occasional "wipe" as it rests against the hair and ear of everybody in the house, to say nothing of visiting workmen who want to call up headquarters.

Scale Insects

By A. H. Hollinger, Missouri College of Agriculture

Scales are about as varied in character as the plants they attack. Some are circular, others resemble very small oyster shells, some are gray or black in color and others are white or reddish, but all are very small, being about the size of a pin head. Sometimes, they occur isolated on the twigs, branches, or leaves, but frequently they

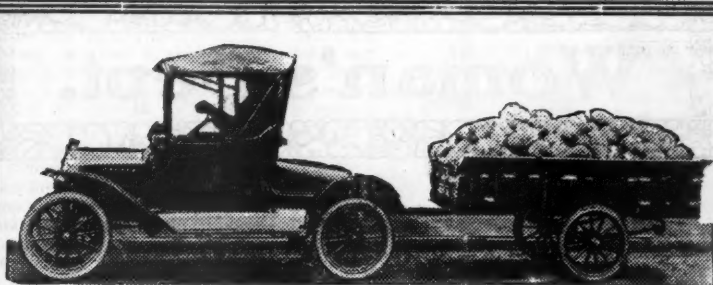
are massed by the thousands on the bark of either the trunk or the twigs. They are all injurious to a greater or less extent, tho the property-owner may not be aware of the danger.

There may be several new kinds which, if not found out, and identified, might prove to be injurious. The circular scale on the trunk and branches of your red maples may be the common maple scale; it may, however, prove to be a scale new to science. The white scale found on your elms, may be the common elm scale but it might be one which, if not discovered and controlled, may become as dangerous as the San Jose scale.

Satisfy yourself as to the kinds of scales that attack your shrubs and trees, by sending material suspected of being infested by scales to the Agricultural Experiment Station, Columbia, Mo., which will be glad to tell you what scale is doing the damage and what spray or other remedial or control measures should be used.

Peaches for Home Use

During the last few years the development of peach varieties has been pushed to such an extent that there are peaches for home use, of the highest quality, ripening every week during more than four months of the summer. The purpose of this article is to explain the differences among the varieties, and to tell which are the best suited for planting in home orchards. The varieties mentioned will be classified as to season of ripening into five divisions. The first of them, those ripening in June, can be called very early. Those ripening



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Woman's Dept.

Greens for the Table

Written for Green's Fruit Grower

A good mess of greens is, to me, one of the most desirable things in the eating line. I could eat them once a week nearly all summer.

They are quite a bit of work and I think that is the reason more people do not eat them. The farmer's wife certainly does have enough to do, but when the weather is warm enough to allow of cleaning and looking over as picked, it is really a pleasure, taking one out in the fresh spring air, and they are so healthful, try a few messes of greens in place of so much pie.

First comes the dandelion, which should be dug, rather than picked. A butcher knife or an old chisel is the best to cut them with. Cut just below the crown, or just below where the root begins, so they come up whole; if you cut them so they come to pieces they are not worth bothering with. They may be used when the plant is as large as your hand, and do not require parboiling. Later they are bitter unless parboiled. When plentiful and large I often cut the leaves from a part of them as the crown is the best part. I suppose nearly everyone knows how to cook them, but for the few who may not I will tell how I like them best. Put into boiling salted water and cook until tender, that depending on their age.

Drain and add butter and pepper, better still, add, when cooking, a few spoonfuls of fried meat gravy, or, cook with a piece of pork.

They are really better than when they are fussed up as sometimes recommended. Later in the season there is narrow dock, red root, or as some call it, wild beet, pig weed, milkweed, horseradish, mustard, poke root and young beets, all of them good, but if you can get all of them together you have a dish fit for the president and I'll guarantee he would be pleased to have some of them. Use only such part of above weeds as break tender and crisp. The tender shoots of the milkweed are delicious, and the tops may be used until budded, and if kept broken off the season can be prolonged for some time. Horseradish will need parboiling if any but the tenderest leaves are used. The main thing is to cook until done.—V. T. W.

TESTED RECEIPTS

Rhubarb

One of the most delicious of the early spring products is rhubarb. There are many ways of preparing it and you might try one of these if the usual method of stewing it with the sugar no longer appeals to you.

Rhubarb Custard

To stewed, sweetened rhubarb add well beaten eggs in the proportion of one egg to one and a half cups of the fruit. Pour into individual ramekins, set into a pan of boiling water and bake in the oven until set. Serve cold.

Rhubarb Jelly

One-quarter box Knox gelatine, 1-2 pink color tablet, 1-2 cup cold water, 1 pound rhubarb, 1 cup sugar, 1-2 cup boiling water. Soak gelatine in cold water; cook rhubarb and sugar in boiling water; add softened gelatine and color; then add orange juice to make one pint. Serve with whipped cream.

Rhubarb and Orange Marmalade

Pare 9 large or 1 dozen small oranges and cut in small pieces. Add 2 pounds of granulated sugar. Cut 2 pounds of rhubarb fine and put all in a granite preserving kettle.

Simmer gently for one hour, stirring frequently.

Cut the yellow orange peel in small bits and add to the contents of kettle after it has cooked a few minutes. Turn in glasses and when cold cover with paraffin.

Rhubarb Sherbet

This is a very grateful and cooling drink for the first oppressive hot spring days. Cut a pound of rhubarb in a granite

kettle and cook till soft. Strain off juice, there should be about three pints as a quart of water should be put on to start it cooking.

Cut lemon fine and put in a stone jar with a cup sugar, pour the boiling juice over it.

Set in a cool place and then chill on ice. Add more sugar if desired, when served.

Boiled Asparagus

Until ready to cook asparagus should be placed with stems in a bowl of water to keep it fresh. Wash carefully, cutting away the tough ends. Tie in small bundles and boil twenty minutes in salted water.

Toast oblongs of stale bread, butter while hot and arrange on a hot platter. Drain off the asparagus, cut the strings and place each bundle on piece of toast. Cover with cream sauce and serve.

Sauce: Use usual recipe for cream sauce, using a cup of the hot asparagus water instead of hot milk, if you choose add the yolk of an egg.

Hashed Liver

Ask your butcher in the spring or early summer to send you a nice calf's liver. Boil it slowly all day until it is thoroughly

Corn Bread

Four cups of warm milk, one tablespoon of lard, one-half teacup of brown sugar, one Fleischmann yeast cake, flour to make a stiff sponge. Set to rise at night. In the morning knead in one and one-half cups of corn meal and enough white flour to make as thick as ordinary white bread, let rise in tins, bake in moderate oven. This makes four loaves.

Dutch Lettuce

Two heads lettuce, two tablespoonfuls vinegar, one-fourth pound raw ham, diced, one egg raw, two tablespoonfuls sour cream, dash of cayenne or paprika. Put ham in dish over flame and cook until brown and the fat well tried out—four or five minutes, then add vinegar, pepper, egg beaten light and sour cream. Stir constantly until it thickens, then pour over the shredded lettuce and serve hot. This sauce can be served over chopped cabbage.

Cheese Straws

One cup of pastry flour, one-fourth teaspoon salt, one-fourth teaspoon of Royal Baking Powder, one-half teaspoon of paprika, one-third cup of butter, one-half cup grated cheese, one-half cup cold water. Mix as any thin paste, adding the cheese with the butter.

Abe Martin says, "Some folks have a way of doing nothing that can hardly be distinguished from work."

person who intends to live in it takes the pains to have it thoroughly disinfected by experts.

In addition to these warnings against contagion, the health bureau gives the usual advice about thoroughly airing a new house before occupancy, turning on all spigots until the pipes have been flushed and cleared of all stagnant water, and seeing to it that the drainage is in perfect working condition. If the householder will take these precautions before moving into a new home he will be doing every occupant of that home an invaluable service and will be aiding the health bureau in its task of promoting the good health of the community.

Advice to a Daughter

A father talking to his careless daughter, said: "I want to speak to you of your mother. It may be that you noticed a careworn look upon her face. Of course it has not been brought there by any act of yours; still it is your duty to chase it away. I want you to get up tomorrow morning and get breakfast. When your mother comes and begins to express her surprise, go right up to her and kiss her on the mouth. You can't imagine how it will brighten her dear face. Besides you owe her a kiss or two. A long while ago when you were a little girl, she kissed you. You were not as attractive then as you are now. Through years of childish sunshine and shadows she was always ready to cure, by the magic of a mother's kiss, the little, dirty, chubby hands whenever they were injured with those first skirmishes with the rough, old world.—Kan., Telegram.

VARIOUS HOME TOPICS

Written for Green's Fruit Grower By

F. H. Sweet, Va.

Is Your Cellar All Right?

When did you last clean it out? You know that cellars and garrets are sometimes overlooked until one "has time." It is not unlikely that some cases of illness are caused by neglecting the cellar. Dust and dirt gather; scraps of vegetables become mildewed; tin cans accumulate and the place becomes littered, drawing insects and mice. It is a good thing, therefore, to clear it out from time to time. Give it a good coat of whitewash, and then keep it as clean as possible.

When to use Hot Water

The hot water may be called upon for the relief of headaches, insomnia and nervousness. If a hot-water bottle is filled, not too full, so that it will fit snugly around the aching parts, it will frequently bring relief.

It should be applied at the nape of the neck, and another, if possible, at the feet. If the headache makes itself felt in the front part of the head, in the forehead and temples, flannel cloths may be wrung out in very hot water and applied.

Relief for toothache, neuralgia and even rheumatism, may frequently be gained by application of the hot-water bottle. A hot-water bag may be covered with soft cloths so that it will not burn the skin.

For a severe bruise, hot water should be immediately applied. An injured finger-nail or toe-nail may be saved by prompt applications of hot water. In such cases the bandages should be changed frequently so that the injured part will be kept hot and the treatment maintained for twenty minutes.

Carelessness

Now is the time when many fires start because people are careless.

If you look for gas leaks with matches, or a lighted candle, there is liable to be an explosion.

Kerosene or other oil lamps should only be filled during the day. There may be a serious explosion if this is done near a light or fire.

Curtains should not be hung over gas jets.

Lighted matches should be put out before they are thrown away.

Never throw a match in a waste basket.

Matches are not toys. Children should not play with them.

BE CAREFUL!



I am a friend of the dog, which I consider one of the most intelligent of all the animals, and I give all the animals credit for great intelligence. But aside from this, the dog is the most loyal of animals, more loyal indeed than man. The dog makes himself a member of the family. He unites himself with the family. He adopts the children and is inclined to watch over and protect them. There is no deception in the dog's character. If he does not like you he will express his dislike. If he loves you he will express his affection.

MOVING DAY ADVICE

Given in Philadelphia, but of Value

Elsewhere

Philadelphia Press

Before moving into a new residence the health bureau advises that such residence be thoroughly fumigated and its plumbing and drainage inspected. Not only do the walls of a sick room become polluted with germs of contagion, but every part of the house is likely to be the lurking place of similar germs. And though the health bureau does on its own account fumigate every house that is known to have contagious disease, there are many cases that escape its eternal vigilance through failure of physicians to report them. Moreover, tuberculosis and other ailments, though exceedingly contagious, are not required to be reported and quarantined. Hence it is impossible to be sure that a house is free from contagion unless the

cooked. Season it well and let cool in its own liquor. The next morning drain off the liquor and use the liver for a luncheon dish, by putting a part or whole of it in your chopping bowl, chop fine, season while chopping. Put it in a granite pan with a little water, dredge the liver with a very little flour, add butter and heat the hashed liver to a boiling point. Serve on small pieces of toast. This is a fine dish in the spring of the year if you become tired of the ordinary every day dishes.

Boiled Eggs

The true secret in boiling eggs so that one can obtain the most nourishment from the egg is to have the water boiling and pour it over the number of eggs you require for the table. Set your dish of eggs back on the stove and let them stand for ten minutes. Your eggs are then ready to serve and you will find that the whites of the eggs contain the proper nutrition.

MAY 1916

Order pattern inches. Add Rochester, N.Y.

1673—Girls' M. Under 7 years. It requires 8 years.

1681—Girls' D. years. It requires 8 years.

1690—Ladies' 42 and 44 in. yards of 44-in. skirt material. Price, 10 cents.

1687—Boys' Diagonal C. years. It requires 4 years.

1556-1559—M. Worn. Bl. and 20 years. It requires 3 years. The year size. 44-inch material. patterns, 10

1670—Costume in 3 sizes: 16 yards of 36-in. The skirt material. Price, 10

1696—Ladies' D. Medium and material for a

1692-1692—Lad 6 sizes: 34, 36



Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

1673—Girls' Middy Dress, with Skirt attached to an Under Waist. Cut in 4 sizes: 4, 6, 8, 10 and 12 years. It requires 4 1-3 yards of 40-inch material for an 8-year size. Price, 10 cents.

1681—Girls' Dress. Cut in 4 sizes: 4, 6, 8 and 10 years. It requires 3 yards of 36-inch material for a 6-year size. Price, 10 cents.

1690—Ladies' Dress. Cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 5 1-2 yards of 44-inch material for a 36-inch size. The skirt measures 3 2-3 yards at its lower edge. Price, 10 cents.

1687—Boys' Blouse Suit, with Straight Side or Diagonal Closing. Cut in 4 sizes: 4, 5 and 6 years. It requires 2 3-4 yards of 44-inch material for a 4-year size. Price, 10 cents.

1556-1558—Middy Suit for Misses and Small Women. Blouse 1556 cut in 4 sizes: 14, 16, 18 and 20 years. Skirt 1558 is cut in the same sizes. It requires 3 1-2 yards of 36-inch material without the cuff. The cuff requires 1 1-4 yard for a 16-year size. The blouse requires 2 5-8 yards of 44-inch material. This calls for TWO separate patterns, 10 cents FOR EACH pattern.

1670—Costume for Misses and Small Women. Cut in 3 sizes: 16, 18 and 20 years. It requires 5 1-2 yards of 36-inch material for an 18-year size. The skirt measures about 3 yards at the lower edge. Price, 10 cents.

1666—Ladies' Dressing Sack. Cut in 3 sizes: Small, Medium and Large. It requires 2 yards of 42-inch material for a Medium size. Price, 10 cents.

1662-1682—Ladies' Costume. Waist 1662, cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust mea-

sure. It requires 3 yards of 36-inch material for a 36-inch size. Skirt 1682, cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 4 3-4 yards of 44-inch material for a 24-inch size, which measures 3 1-3 yards at the foot. This calls for TWO separate patterns, 10 cents FOR EACH pattern.

Use of Borax for Preventing Propagation of Flies

The Department of Agriculture has issued a Bulletin, No. 118, entitled "Experiments in the Destruction of Fly Larvae in Horse Manure."

The Bulletin says: "By far, the most effective, economical, and practical of the substances is borax in the commercial form in which it is available throughout the country."

"Borax increases the water-soluble nitrogen, ammonia, and alkalinity of manure and apparently does not permanently injure the bacterial flora."

The directions in the Bulletin are as follows:

"Apply 0.62 pound (about 1/2 pound) borax to every 10 cubic feet (8 bushels) of manure immediately on its removal from the barn. Apply borax particularly around the outer edges of the pile with a flour sifter or any fine sieve, and sprinkle 2 or 3 gallons of water over the borax-treated manure."

Rhubarb as Food and Medicine

Written for Green's Fruit Grower By Mrs. J. S. Emmons

Nature has her own tonic for the spring-time, and if we would make free use of them, there would be fewer sufferers from the change of seasons. With the first touch of spring the rhubarb comes to us for our tables, and not half enough importance is attached to this humble plant. Probably there is nothing edible that is more wholesome, and certainly its flavor is both delicate and delicious. To transfer it to a secondary place in cooking at this season of the year is a great mistake. It is one of the most valuable spring plants, possessing both cathartic and astringent properties, and is at the same time a fine tonic.

The agreeable mixture of citric and malic acids, which the leaf stalks contain, is very pleasing to the palate, consequently there is no excuse for those who neglect to avail themselves of its vivifying effects. The system needs just the cleansing and purifying, which a liberal use of rhubarb will give it. It is a mild laxative, and is therefore useful, (and proving far more beneficial than physic) in cases of chronic constipation, but it should not be indulged in too freely by persons suffering from gout

and rheumatism, owing to the fact that it produces calcium oxalate in the urine. From the first appearance of rhubarb it should be given a place on the table in some form or other until the early fresh fruits are plentiful. Even plainly stewed it will be welcome, and prepared in many other ways it can be made a delicious addition to the daily menu.

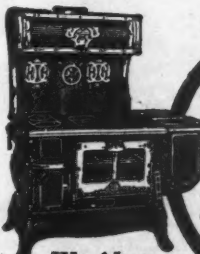
Sometimes rhubarb is thought expensive, because it requires so much sugar, but the benefits are far greater than the cost. When the sugar bin is low try stewing it with raisins or prunes; it will then require much less sweetening than if stewed alone. Also if a pinch of soda is used less sugar is required.

Almost every woman who keeps house thinks she knows how to make rhubarb sauce, but for those who do, and for those who do not know, the following will prove an excellent recipe. Wash the rhubarb, trim the tops, but do not pull it, as the red skin gives a fine color and flavor, and if the rhubarb is young and tender, it will soften in the cooking. Cut the stalks into inch pieces. To about three cups of rhubarb allow two cups of sugar. Cook in a granite sauce pan or porcelain kettle. Do not add water, as the juice of the rhubarb will make sufficient syrup. Let it cook without stirring until the sugar is dissolved, and the rhubarb tender. Each piece should be whole and distinct in the clear red syrup, and thus it is much more inviting looking than when stewed to a mush.



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Letters From The People

"Prudent questioning is the half of knowledge."—Proverb

Raspberries and Asparagus

Green's Fruit Grower:

(1) How should everbearing red raspberries be pruned? I have clipped ends off all plants, leaving the row about 2½ to 3 ft. tall. Should all bearing wood be cut out at the end of season, leaving only new wood? Does the same method apply to ordinary varieties such as Cuthbert?

(2) Last year about 50 per cent of a new plantation of raspberries failed to grow. Would it be practicable to set new plants in vacant spaces by digging hole with shovel and let the surviving plants remain, or would it be cheaper to plow up entire acre and set all over again?

(3) What is the practical method used by commercial growers in removing the old canes from between the rows which have been cut out after the black raspberries have ceased bearing? What is the best tool to use in cutting out these old canes, one that will save the back and yet do good work?

(4) My asparagus was set out last year (one acre) in furrows, 5 ft apart, made by ordinary shovel plow run as deep as possible, probably 8 or 9 inches deep. Should it have been deeper? Will it be correct for me to plow this each spring from 3 to

Berry Field Inquiries Answered

In reply to R. L. Burroughs of Vermont. Wood ashes are especially good fertilizer for orchard trees. Coal ashes contain but little fertility and would help mainly in loosening the soil and preventing its baking.

I have found no remedy for the white grub in strawberry beds other than to dig them out when I see a plant withering and kill the grub.

Scattering hard wood ashes over the surface of the field or bed where strawberries are to be planted soon would not be apt to injure the plants unless excessively large quantities of the ashes were applied or unless the ashes were applied unevenly. The roots of no plant or tree should come in contact with any perceptible quantity of wood ashes.

I know of no crop that can be sown on land to eradicate successfully various weeds. Any crop that shades the soil heavily, such as buckwheat, retards the growth and development of all weeds, but cannot be expected to eradicate the weeds.

Large Hickory Nuts

Mr. C. A. Green: I send you under another cover four hickory nuts from a tree that grows here, that we think are as good

bore nuts fully as large as those you send. I do not consider the shell very thin. The meat is plump and rich. I regard this as a valuable variety and advise you to perpetuate it. There might not be much money in introducing it, which is expensive. The grafting of nut trees is far more difficult than ordinary grafting. No one but an expert can expect to succeed with nut grafting. A friend says in regard to the flavor of your nut that it is excellent.

Vines Covering a Fence

Editor Green's Fruit Grower: I come to you or some of your readers to inquire how to treat or handle the clematis. I have probably planted 50 of the blue sort, mostly Jackmanni but cannot get them to do well. Some will live through one summer, make a feeble growth, next spring generally leave out, and soon die. My soil is a black sand, well drained and in good state of fertility. They seem mostly to rot off right at the top of the ground. I buy first size field grown plants. I am trying to grow them along a wire fence in front of my house. My aim was to completely cover the fence, which is a low one, but I am disappointed. What can you tell me?—L. S. Rogers, Ohio.

Reply: I do not recommend clematis for the purpose you mention. Where you have a wire fence to cover you should have a strong growing plant, such for instance as the Crimson Rambler rose, Live Forever rose or Dorothy Perkins, or if a vine you should plant honeysuckle, Virginia creeper or clematis paniculata, all of which differ from Jackmanni clematis in many respects. I cannot say what is the cause of your failure further than the soil around most dwellings comes from the bottom of the cellar when the cellar was made and is not adapted to plant growth.

Grafting Peach Trees

Green's Fruit Grower: In the severe winter of 1912 I had a great many of my young peach trees killed by frost, but during the following summer several of them grew up again and made nice trees. This past season they were loaded with fruit, but it never got more than half size and did not get ripe. I suppose they are what is called natural fruit, as the new sprouts started from beneath the ground. Do you not think that is the cause? Could these trees be grafted with buds from my Early Crawford and bring me quicker returns in fruit than to cut down the trees and replace with new planting? Some of the trees have made wonderful growth and I dislike to cut them down if I could gain time over planting by grafting them. Please tell me what is best to do. If I can graft them, please tell how to do it, what to use, etc. I have never done any grafting.—John C. Hage, Michigan.

Reply: The best thing you can do is to dig out the peach trees which bear poor fruit. I have never seen a graft succeed on a peach tree. Such large trees as yours could not be budded successfully as a rule.



A friendly fruit grower, Mr. Badger of N. H., who is a subscriber to Green's Fruit Grower, sends the above photograph of his strawberry plantation and of the large and attractive fruit which he is producing. I can easily imagine the enthusiasm of this friend in producing such beautiful, luscious and fragrant fruit as the strawberry, which I have called the poor man's berry, since it helped me in getting a start when I was a poor man.

4 inches deep, or will the roots gradually rise until this will be impossible? Kindly advise as to cultivation. Have top dressed with horse manure but can't afford fertilizer this year.—R. J. Holliday, Pa.

Reply: 1. Yes, at the end of the bearing season I would cut out all the old bearing wood. I have never seen raspberries fruiting during two consecutive seasons from the same wood, but I have seen raspberries produced by sucker plants of the present season's growth, but this is rare. I have never succeeded to my satisfaction with everbearing fruits of any kind.

2. Yes, you can fill out the plantation with new plants where the plants last season died, provided the plantation is comparatively free of weeds and grass.

3. The question is not plain. When the bearing plantation is abandoned, it is assumed that the plantation is plowed under and prepared for another crop.

4. Your asparagus plants were set abundantly deep. If the crowns are covered too deeply all at once with earth they are liable to rot, therefore when asparagus are set in trenches, with lower ends of roots as low as may be, the trench must be filled up gradually as the new shoots extend in height. Be careful not to plow too deeply, especially within 18 inches of the plants. I should prefer not to plow at all but to cultivate shallow with a cultivator, as it is very easy to injure an asparagus bed by plowing. You cannot make the soil too rich on an asparagus bed.

Raw onions are recommended as a cure for sleeplessness.

as pecans. They seem to be thin shelled, good and sweet. Do you not think they are worth propagating? I have been trying to graft and bud them for four or five years, and have not succeeded in getting any of them to grow. Can you tell me what is wrong?—M. W. Rutherford, West Va.

Reply: Thanks for the marvelously large hickory nuts. I have not seen any so large since I was a boy, when there were several trees in my father's woodland that

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New Remedy for Tent Caterpillars

Editor Green's Fruit Grower: Will you kindly print in next issue the following. New way of destroying Tent Caterpillars, contributed for those who wish to try it, by F. W. R. Bradford, West Acton, Mass.

One reads of wiping out the nests with a cloth, of burning out with a torch, etc., the former is not always possible, while the latter even using care, will do more or less damage. I discovered three years ago and have used this method with entire satisfaction ever since both in tall and low trees, that if a flat brush about two inches wide be dipped in creosote, such as is used for painting the brown-tail and gypsy moth eggs, and the nest be daubed on top and inside so the caterpillars will be hit or obliged to crawl through this creosote, all the worms that come in contact with it die. The best time to do this is in the early morning when they are all congregated on the outside of the nest, dip the brush in the creosote, let all stay in the brush that will, then paint the caterpillars. I have recommended this to many and all pronounce it an effective ideal way. For tall trees the brushes may be fastened on light bamboo poles or edgings about one inch square of any length desired. My orchard comprises over a thousand fruit trees, most of them apple, I use 5 and 15 foot length brushes, have no trouble in reaching the tallest nests by getting into the tree a bit when obliged to. One thorough application is sufficient, no danger from fire and no injury done the trees.

The Bees in Spring

Those that were wintered in the cellar must be put on their summer stands when the weather becomes sufficiently favorable, and it is not the easiest thing to decide just when that should be done. Somewhere about the time soft or red maples are in bloom will not be far out of the way, says The American Cultivator.

Feeding

In spite of the fact that bees should be disturbed in spring as little as possible, it is better for them to suffer from disturbance than from starvation. If the right amount of stores were present in the hive in the fall, there will be no need for any anxiety, and the bees may be left undisturbed. Unfortunately, it will sometimes happen, especially if the hives are small, that there may not be honey enough in the hive to last till the bees can gather from the flowers. With box-hives you can do no better than to heft the hives and guess. If you guess they may run short of honey, you can put pieces of comb honey or candy under the hives, unless the hive is so arranged that it will be more convenient on top.

You are not restricted entirely to honey for feeding. Sugar will do, if properly prepared. Indeed, after bees get to flying in the spring, almost anything they will take in the line of sweets may be fed. Maple syrup will do. All things considered, perhaps the best substitute for honey is the best granulated sugar. It may be fed in the form of candy or of syrup.

Queer Raspberries

Green's Fruit Grower: Twelve years ago I began fruit growing in a small way and now have three village lots set to fruit trees and raspberries, both black caps and Columbian. I have always kept them tied to stakes, nicely trimmed and well cultivated. For five years we have had large crops. In 1914 I had the largest black caps ever seen in this locality, but last year an unusual thing occurred. Although the spring was late and the season wet, they blossomed nicely, set heavily and gave promise of a good crop. The Columbian were good, but when the black caps began to ripen I found there was something wrong. Part or all of the berry turned red, became dry and seedy and void of juice. Sometimes the berries on only part of the vine would be thus affected, but it spoiled the crop. Can you tell me the cause of this? I value Green's Fruit Grower very highly and expect to read it for years to come.—J. W. Hovey, Michigan.

Reply: I have had no experience such as you mention. Perhaps some disease attacked your raspberry plants. The most productive black raspberry plant I ever saw was a wild plant growing in my father's

garden fifty years ago near the mouth of a drain leading from the kitchen sink, which irrigated this plant daily and added fertility to the soil.

Strawberry Plants Smothered by Mulch of Straw or Manure

This morning, April 19th, I have gone over a large bed of strawberries with a fork, loosening up the straw stable manure thrown over the bed last fall as a winter protection. Where the litter is very thin and light the strawberry plants are coming up through the litter, but I find many places where the covering of straw is so heavy the plants would perish beneath the burden. It is desirable to leave a portion of the straw mulch around the plants, but I warn readers of Green's Fruit Grower to be careful that this covering is not burdensome, and that it is absolutely necessary that you should go over the beds or plantations and push one side clumps or clods of manure or straw applied for winter protection, before the strawberries blossom, if possible, but certainly at the earliest possible moment after this date.

I once had a thrifty and promising bed of strawberries, and knowing the advantage of a slight mulch of straw or strawy manure, I applied in April a covering of straw over the entire plantation. This straw almost covered the plants from view, but I assumed that the plants would force their way through since the covering was not excessively heavy, and that I would get an enormous yield of berries owing to the moisture that the mulch would naturally supply or hold. To my astonishment this plantation of strawberries on which I had expended so much labor was a failure owing to the fact that the berries were too heavily covered with straw, and yet it seemed to me, an old strawberry grower, that there was every opportunity for the plants to force their way through the straw covering.

This disastrous experience has led me to assume that the covering of straw kept the soil beneath cold, thus checking the growth of the plants, which in addition to the check given by the straw resulted in failure. If the straw mulch could be drawn, partially at least, away from the row of plants and left in the pathway between the rows, it would be helpful there in retaining moisture.

The old rule is that strawberries must not be hoed or cultivated in the spring where a full crop of strawberries is expected. I would not hold to this rule strictly, for if very shallow cultivation is given with the hoe in removing weeds or grass, no serious injury will be done, but deep cultivation between the rows with a cultivator is injurious to strawberries in the spring of the season when they are expected to bear the largest crop of fruit.—C. A. Green.

All Records Broken of a Productive Dwarf Apple Tree

In the last report of the "Minnesota Horticulturist" we have the assurance of Dr. O. M. Huestis of Minneapolis, Minn., that he has in his garden a dwarf apple tree of the variety known as Yellow Transparent, remarkable for its beauty and hardness, which little tree, scarcely more than four feet high, the third year after planting bore 96 apples. We who are growing apples and other fruits to a moderate extent near Rochester, N. Y., which we consider a favorable locality, have been surprised and pleased with the early bearing and productiveness of dwarf apples, but we have never been able thus far to report 96 beautiful specimens growing on one tree only three years planted.

The First of May

By A. E. Housman in Cambridge Review

The orchards half the way
From home to Ludlow fair
Flowered on the first of May
In Mays when I was there;
And seen from stile or turning
The plume of smoke would show
Where fires were burning
That went out long ago.

The plum broke forth in green,
The pear stood high and snowed,
My friends and I between
Would take the Ludlow road,
Drest to the nines and drinking
And light in heart and limb,
And each chap thinking
The fair was held for him.

Some Strawberry Pests

Strawberry leaf rollers: The larva rolls the leaf and feeds upon it. Spray the plants with lead arsenate and burn the fields as soon as crop is harvested.

Strawberry flea beetles: The adults eat holes through the leaves. Spray the plants with lead arsenate before the fruit is half mature.

Strawberry crown borers: The grub tunnels and feeds in the crown of the plant. Practice crop rotation. Burn over infected fields in fall.

White grubs: The larvae of June beetles damage grass, corn, strawberries and other plants by eating off the roots. Practice fall plowing to expose the insects, and harrow thoroughly before planting.—T. J. Talbert, Kansas Experiment Station.

Night Lamps Destructive to Insects

A subscriber to Green's Fruit Grower, Mr. H. A. Bartholomew of Oregon, calls attention to the fact that a lantern kept burning all night suspended over a pan of water or oil is one means of destroying large numbers of injurious insects. This is not a new method. The objection to it is that it destroys helpful insects as well as those that are injurious, but probably fewer helpful insects would be destroyed than others.

New Claim for Banana Apple

Charles A. Green, Esq. I planted a few Winter Banana apple trees a few years ago. I like the apples very much, as the trees bear very well, and the apples are fine. The

Winter Banana has one quality that no other apple that I ever saw has and I don't think you have discovered it, as I have not seen or heard of it being mentioned. Its baking quality, and the separation of the seed core from the body of the apple when baked.

In baking it won't do to have too much heat, for if you do it will spread out when the apple bursts open.

Cooked and well cooked by a moderate fire when done, cut the apple into three parts, crosswise and the middle piece will contain the core, which will easily separate if the rim round the core is cut on one side. You can easily test this fact—Yours very truly, Geo. H. M. Barrett, N. Y.

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AT the present prices of gasoline and kerosene, no farmer can afford to use a gasoline tractor. Gasoline averages now over 100 per cent higher in price than kerosene and is likely to go higher rather than lower, in the opinions of men who know the oil business. Again, it is neither safe nor economical to use kerosene in a tractor not specially designed to operate on kerosene. Merely changing the fuel mixer is not enough; the design of the whole motor must be changed. Kerosene and gasoline tractors of equal power sell for about the same price and use practically the same amounts of fuel. On that basis a Mogul 8-16 tractor saves each year, in fuel bills alone, about a third of its price. The figures prove the truth of this statement. If you are considering the purchase of a tractor this year, give these facts careful study, from every point of view, before you spend your money. Mogul and Titan tractors are designed specially to operate on kerosene and to give their users the full benefit of this advantage. There are four sizes—Mogul 8-16 and 12-25, Titan 15-30 and 30-60. Write us for full information before you buy any tractor.

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Farm Department

The Old Farm Lane

The maples, with their crimson stain, Beguile me down the old farm lane, Where the slow-moving cattle go At dewfall in the afterglow, The pastures, wrapped in amber gloss, When dreamily there drifts across The milking cry, "Co' boss! Co' boss!"

Here sumachs show their gleaming fire Above the purple aster spire; And here, like embers in an urn, The bending barberries blush and burn; While from the opened milkweed pod Drift snowy sails, and o'er the sod Lift torches of the goldenrod.

The air is soft, the air is sweet; The bygone lure of truant feet Calls as it did in distant days When all the world was hung with haze, The haze of youth, and dreams were fair, And filled with glories that remain A halo 'round the old farm lane! —Clinton Scollard, in New York "Sun."

What the Farmer Sells for One Dollar Costs the Producer over Two Dollars

The equitable distribution of wealth has ever been the great problem of mankind. The largest portion of wealth is embodied or represented in the things we eat, and so the greatest problem before the people today is the equitable and economic distribution of that portion of wealth which we call food products, says John J. Dillon, Commissioner of Markets, in his speech in favor of auction sales of New York State Fruits.

Our Federal and State Governments spend millions annually to instruct farmers in ways to increase the wealth or food products of the farms. The State of New York spends more than three millions of dollars annually for this purpose. Yet there is always a surplus of products for which the farmer has practically no market; and it is seldom that he can find a satisfactory market for any crop. Under normal conditions the bumper crop sells for less

money in the aggregate than the small crop in years of scanty production. In other words the Government is instructing and inspiring the farmer to grow large crops; and when he succeeds the farmer is punished by receiving less money for the large crop than he would have received for a smaller one. A large part of his annual production wastes on the ground, while children hunger in the cities of the State; and 65¢ out of every dollar paid by the consumer for his products is absorbed in distribution. The farmer must be content with 35¢ out of the dollar paid for the goods he sends to market. New York City consumes annually \$800,000,000 worth of food. Less than 5% of this comes from the farms of the State; and a recent investigating commission estimated that \$100,000,000 could easily be saved in distribution, and competent authorities believe the estimate is too low. It was admittedly conservative. The Federal Government recently made an investigation and reported that the average farmer did not receive an income for his labor in excess of the wages of a hired man. In consequence we find abandoned farms, and once well tilled acres left to the care of aged parents, while the youth and vigor of the family seek employment and fortune in town and city.

Turning to the large centres of population we find the cost of living increasing, and economists tell us that unless we increase our food production, in twenty-five years our city people will go hungry because population is increasing faster than production, and we will not have food enough to go around. The remedy commonly offered for this state of affairs is education and training to keep the boys and girls on the farms. The failure of this remedy does not seem to discourage its advocates. They go on blindly urging more education and more persuasion. The more they educate the smaller the county population becomes in comparison to the growing city millions. So long as the city offers greater reward for effort than the county, the farm boy will find his way to the city, and the more you educate him the surer he is to go. Popu-

lation will seek the level of opportunity and reward just as surely as water will seek and find its own level. Education and persuasion will never keep the intelligent boys and girls on the ancestral acres.

Whistling Hired Men

Written for Green's Fruit Grower By W. F. Wilcox, Col.

I once knew a farmer who gave his hired man a dollar a month more if he would not whistle. Now there may be some waste of energy and lost motion in whistling, but there are compensating features. It stands to reason that a whistling hired man isn't going to be swearing at the stock while he is whistling. A whistling hired man isn't so liable to be pounding everything to death and scaring the daylights out of the cows and horses.

A whistling hired man won't be so liable to have a continual grouch on and carrying a chip around on his shoulder. It is nature's way to tag happiness and joy with song. The hens that sit around dumpy and grouchy don't lay; but the biddy with the "song" lays the eggs.

So I say I'd rather give a man a dollar a month more to whistle than not to whistle.

Disadvantages of the Small Farm

Altho the "little farm well tilled" is a favorite with the poets, farm management surveys of the College of Agriculture show that it has several disadvantages. Among those which have the greatest effect upon farm profits may be mentioned the following:

1. Two men are needed to do a large part of farm work economically, and a small farm frequently does not offer enough steady work to keep an additional man busy.
2. The cost of horse labor per acre, like that of men, is excessive.
3. The cost of machinery per acre on small farms is nearly double that on "family sized" farms, as machinery can be used to better advantage on such farms.
4. Barns and similar equipment cost more per acre than on large farms.
5. Small fields are necessary, and the cost of fencing is increased per acre.

A diversified farm in the corn belt should ordinarily contain not less than 160 acres.

Clean Up the Farm Home

If in cultivated crops take such good care of them as to draw one's attention as they pass, and if in grass, have the surface smooth and lawn-like after being mown. Let the fence corners be neatly mown, with no



Is Your Mowing Machine in Good Condition to Start into the Hay Field?

Have you extra knives and other parts of the machine that are liable to break, extra bolts, etc., for a mower or harvester? When I was a boy on the farm I had a supply of these things all ready before haying or harvesting and made sure that the mower and reaper were in prime condition for immediate and continuous use. What a beautiful field of timothy is shown in the above photograph, and how beautiful the trees on the plain and on the mountain side. Farmers should pay particular attention to the beauty of the landscape for it has much to do with the value of the farm.

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hedgerows left along them; plant some trees, shrubbery and flowers about the buildings, and allow no broken down wagons or old implements standing about. Keep the farm live stock in that condition that you will not feel ashamed to own it, but on the contrary, be a little proud that it belongs to you, when you exhibit it to your friends. All of these things help to make up the sum total of a real farm home. The orchard and garden also come in as great aids towards making the farm house the most desirable place on earth, for when we write about the home, it is hardly possible to think of any other but the farm house, because it is nearer to Nature and the things that make life so charming in the country. Year by year add something to make the home more dear.

—E. H. Dow, in The Weekly Sun.

Farm Notes

Spraying will not pay unless the fruit is well marketed; spraying is only part of the battle.

Fruit thinning pays in money returns the first year. The earlier the thinning can be done the better will be the returns.

There is no danger of an overrich soil for asparagus. In fact this crop can only be grown profitably on very rich land.

The soil on which strawberries are to be grown should be well supplied with humus and available plant food.

It is unnecessary to use a large amount of water in setting trees. No more water is required than will be sufficient for moistening the roots well.

Nature's plan is to cover up the waste places and weeds are provided for the purpose. Keep something growing and the cultivator going.

Plan now for variety and abundance of feed for the entire year. First in the Spring comes rye—wheat may be sown with this—then should come oats, peas and alfalfa and next millet. Pumpkins also may be grown and sugar beets. There is nothing a cow likes so well as sugar beets. Then, of course, the ensilage must be looked out for. It may not be time now to build the silo, but it is time to have it in mind.

The snake question is of interest to the farmer. Snakes ordinarily eat toads. There are some, however, that find the rat a succulent dish and these snakes are of real value to the farmer. The rats eat honey and honey is the substance of bees. The bees provide cross-fertilization of the red clover and other legumes which have tubercles on their roots containing bacteria, which combine the nitrogen in the air with the substance in the soil forming nitrates and nitrites so essential for fertilization. Toad-eating snakes are a real detriment to the farmer. For the toads which they eat feed upon the insects.



Our artist in speaking of the blue print of your farm refers to the knowledge you should have of every field and the crops which can succeed best on each field. These facts should be stamped upon your brain something after the blue print photograph. The high land, the knolls, the ridges, the side hills of your farm are the best for both large and small fruit growing. The home fruit garden should not be far distant from the house.

Wonderful Growers

The banana has a prodigious method of propagation, for before the parent stalk and fruit have matured new ones spring up. Those are offshoots that grow from the root of the original plant, resembling the sprouts from the "eyes" of a potato, and each, in turn, becomes a parent stalk with its fruit. It may be seen that unless most of the constantly appearing new plants are cut out, which is the practice, the first stalk in a few years will become the center of a small jungle. The plants grow to a height of from 15 to 35 feet, spreading in all directions, until the soil is overburdened with a mass of stalk and leaf growth. Then stunted fruit is produced.

Growing with wonderful rapidity under favorable circumstances, within a period of six or seven weeks the two or three foot plant will more than double in size, and a month or so later the leaves cease to unfold and a spike appears out of the center of the crown. This is the future stalk of the bunch and carries a huge red blossom at the end. It develops rapidly, bending more and more until it has completely turned upon itself, so that the bananas grow in a position reversed from that in which they are seen when hung up for sale. It takes from seven to twelve months for the fruit to mature after the blossom appears.

Banana plantations will yield a continuous harvest for years without replanting. Nearly 200 hills, having 900 stalks, are allowed to the acre, yielding some 300 marketable bunches per year, the average profit per acre being nearly \$50 annually.

A well-grown tree lasts a life-time. It pays to be particular—to buy the Right Trees!

Arkansas Letter

Editor Green's Fruit Grower:—I accidentally found a copy of your excellent magazine in Arkansas. I find it very interesting and should be delighted to read it every month if I were able, but I am an invalid taking the water cure here. I was reared on a farm and am always interested in anything in that line. I have been a schoolteacher for forty-six years, but I am going to try to get into the fruit, poultry and bee business next year.

I think you are mistaken about poison ivy, because the ivy so-called is not poison. This vine grows in great abundance in Illinois and woodchoppers handle it without danger. I know one man who would peel off the bark and eat it if he got poison in his hands from it. I have only known three persons who were supposed to be poisoned by it, and that was when the ivy was in full leaf. I know of a girl who was poisoned by passing a hedge full of ivy when the wind was blowing from the hedge toward her. She did not even touch the ivy. The so-called poisoning is done by a microscopic insect that lives on the underside of the leaf. When it gets onto human skin it burrows into the flesh. The best remedy is to bathe the affected place with fresh lard mixed with a little sulphur.

I have seen many opossums, but they all had ears like a rat. A Mr. Hopkins in Greene county, Illinois, has a Berkshire sow that farrowed 13 pigs in May, 1914, and in the autumn 13 more, and raised 22 of them. In May, 1915, she farrowed 16 more, 42 pigs in 356 days. Can anything in New York exceed that? Large crops of all kinds in Arkansas.—W. P. Miller, Arkansas.

The College of Forestry connected with Syracuse University has examined and outlined methods of improvement for public shade trees in 26 cities and towns in the state. It has been found that in the cities there are 20,000 miles of streets of a character capable of sustaining a growth of 5,000,000 shade trees which can be made worth \$100,000,000 in increased property value. Buffalo is thoroughly alive to the possibilities of the situation and spends annually about \$75,000 for the planting and conservation of shade trees along its public streets. Rochester does not do quite as well, but last year it cut out 1,102 dead, dying and dangerous trees, trimmed several others and planted 724 young trees in ten of its upwards of fifteen hundred streets. But tall oaks from little acorns grow.

When It's Nitrate Time for Apples

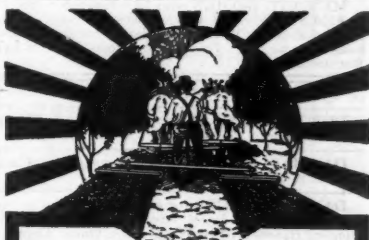
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Green's Fruit Grower Co., Rochester, N. Y.

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CALIFORNIA FRUIT FARMS for sale. Terms Write. E. R. Waite, Shawnee, Okla.

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SELL YOUR PROPERTY quickly for cash, no matter where located; particulars free. Real Estate Salesman Co., Dept. 22, Lincoln, Neb.

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The nightingale appear'd the first,
And as her melody she sang,
The apple into blossom burst,
To life the grass and riv'lets sprang.—Heine.

Flowers and Fruit in the Back Yard

Written for Green's Fruit Grower By Gertrude Taatjes, Mass.

How many know that the back yard, usually an eyecore to all beholders can with but little labor and expense be converted into a thing of beauty and a source of revenue. Yes, it can be done—has been done and the following methods are those in which others have met with success.

One woman, with a large back yard on which nothing but rubbish had ever been raised racked her brains trying to think of something she could do to increase her income and then happily hit upon the plan of growing pansies.

Her efforts met with such success that the following year she leased an adjoining vacant lot and in a few months had converted it into a veritable pansy paradise. She supplies all the pansy lovers for miles around catering to a large trade and her pastime, as she calls her work, has proven both pleasant and profitable.

Another woman devotes all of her spare time to the raising of strawberries. The work is not hard and the reward amply repays her for the time expended. Nothing but perfect berries are sold and as these are the largest kind in the market the demand always exceeds the supply.

This year she has succeeded in interesting her two sons in her work and plans to double her strawberry beds with their help.

Truck farming on a small plot of ground sounds impossible but it is just what one family is doing and besides enjoying plenty of fresh vegetables at their table they supply others with the surplus at a neat profit.

The entire family had become so engrossed in this occupation that they have voted unanimously for a home in the country with opportunity to raise garden truck on a large scale.



Possibilities of the Back Yard

The upper photograph represents the back yard occupied by peach trees, raspberry, gooseberry and currant plants.

The lower photograph represents the back yard mainly occupied with poultry with fruit trees scattered over the place.

Poultry is still another avenue in which the owner of a back yard can find pleasure and profit. There is a wide field in this work and one can raise broilers, roasters or simply cater to an egg trade; either way there is money. And one need not confine oneself to the staid biddy as a source of revenue.

One woman has met with considerable success raising White Pekin Ducks. Her first attempt was also made in a back yard but her growing business soon made it necessary for her to increase her place and this she was glad to do as she saw at once the opportunity at hand.

Squabs are also money makers. Given a dry, sheltered coop and reasonable care there is no reason why one should not succeed with them. A coop 10 ft long, 6 ft. wide, with a front elevation of 8 ft. sloping to 6 ft. in the back will comfortably house 25 pair of birds.

As it is necessary to take care of the breeders only, they in turn caring for the young, one can readily see that there is not much time involved in their keeping. The squabs are ready for market when 4 weeks old and the old birds usually go right on raising another family.

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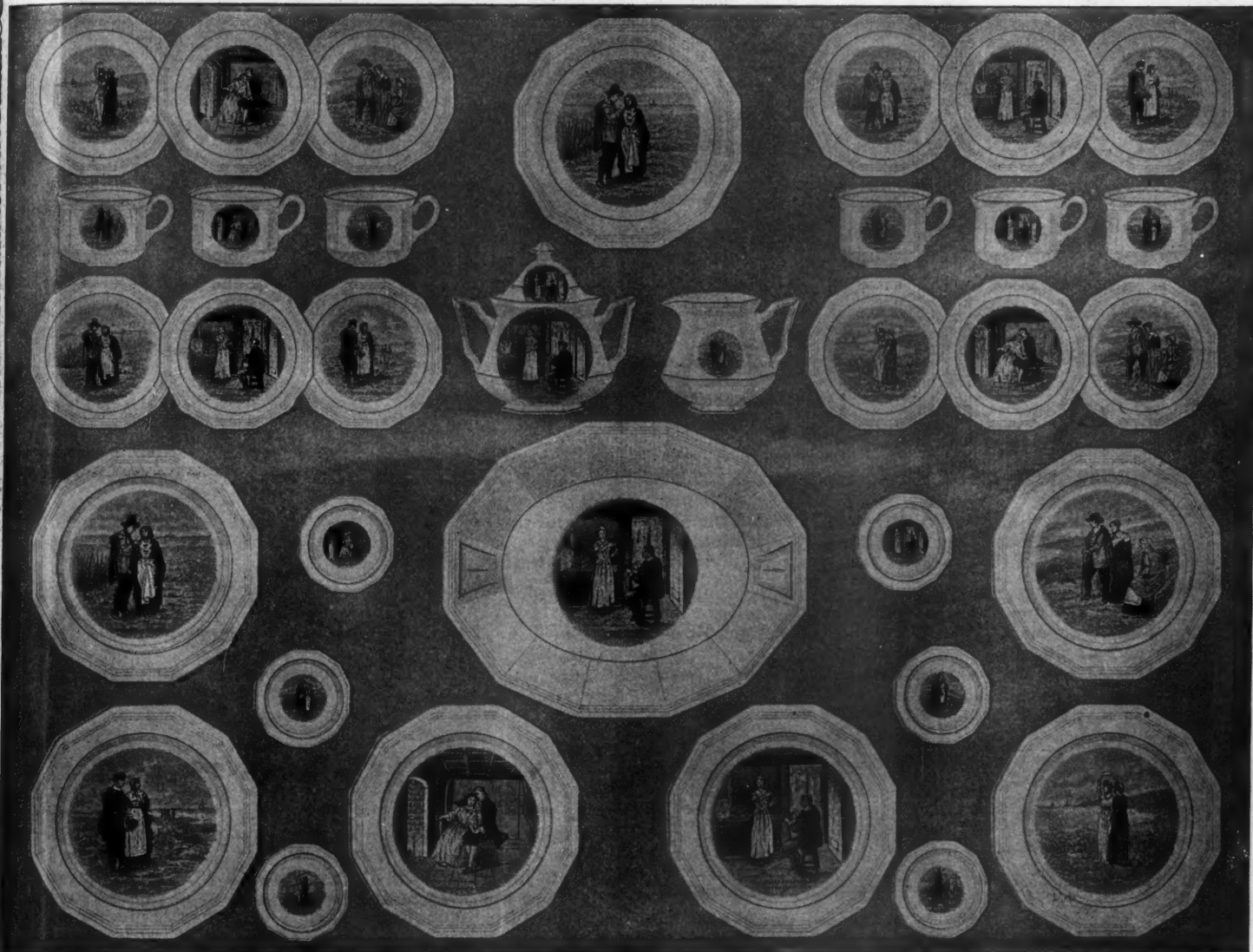
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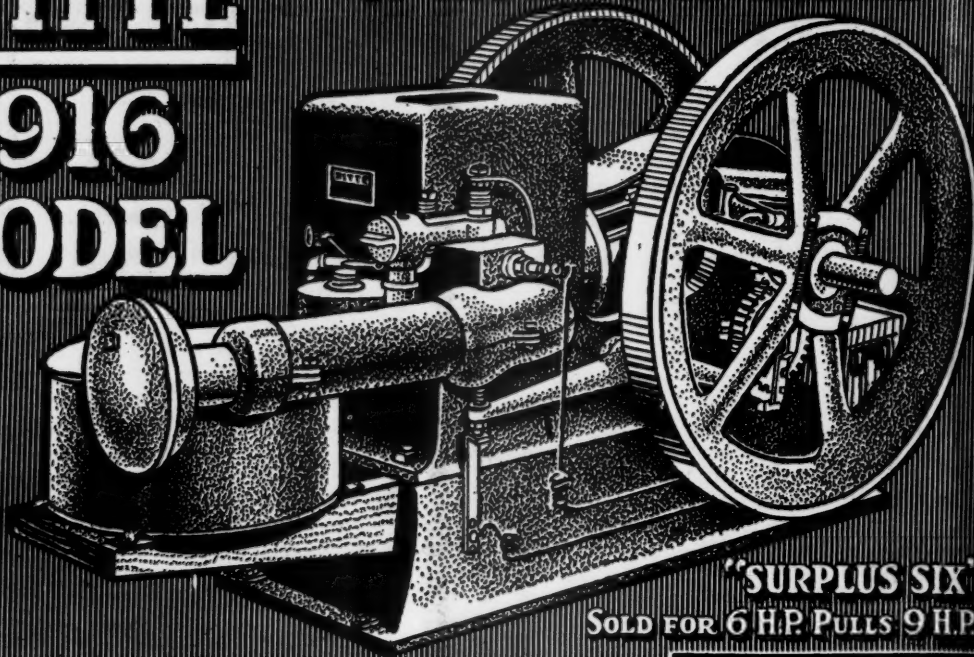
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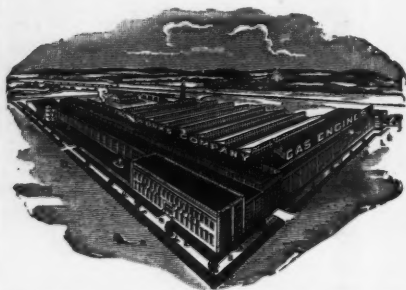
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